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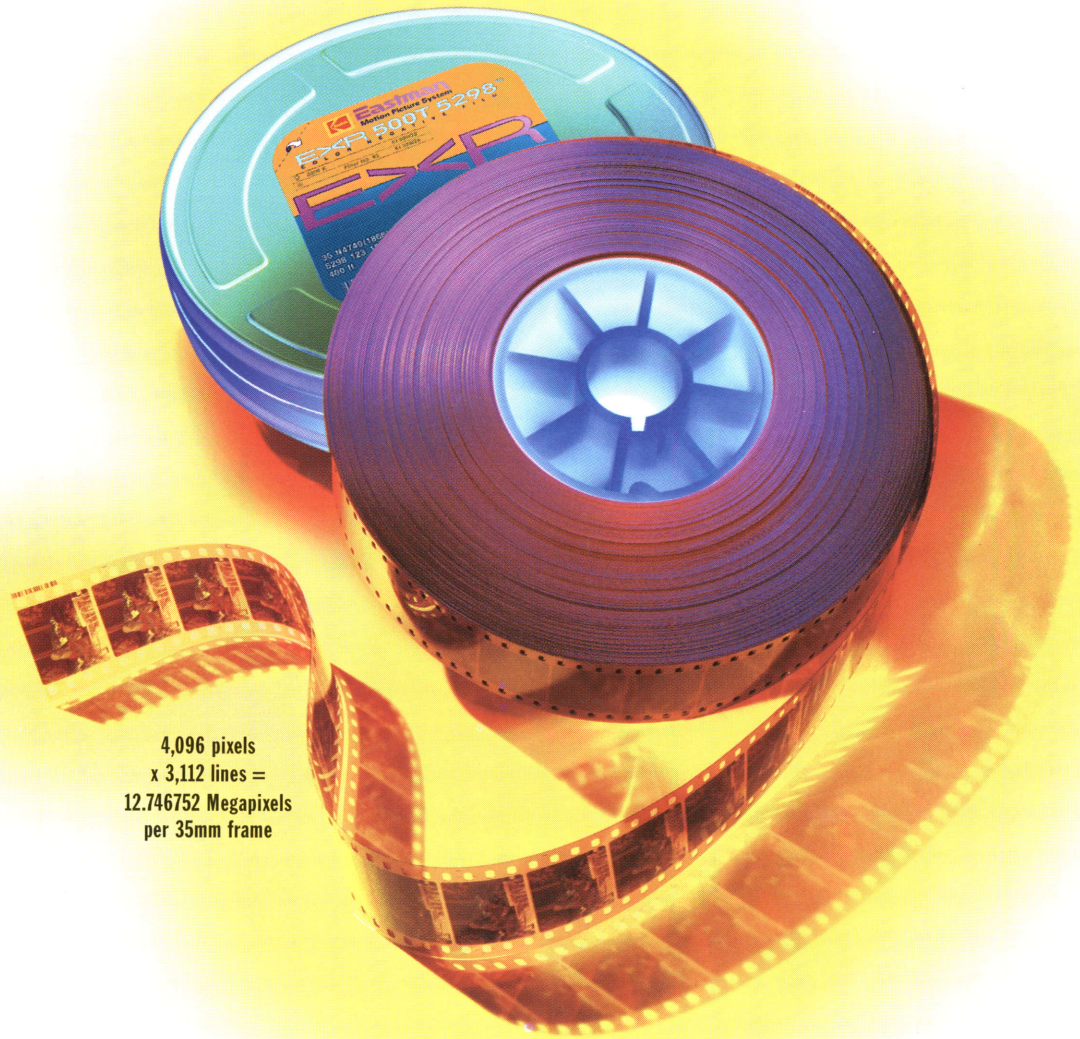

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Cranston In His Element

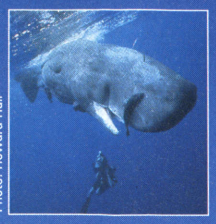
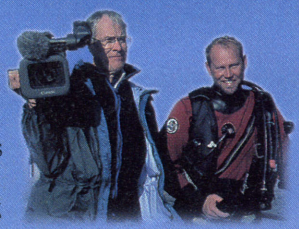


Photo: Howard Hall

The sperm whale and her calf are 20 yards off starboard. Veteran underwater cinematographer Bob Cranston drops a fresh 40-minute cassette into his Sony HDW-700A, checks the battery level, and seals the housing. In the water, the camera's mic records the slap of a fluke on the surface & the clicking of the mother to her offspring. The Fujinon 5.2-52mm lets Cranston zoom in on a detail or gather the whole scene into a single wide shot.

"I've been shooting Super 16 and IMAX® underwater for years," says Cranston, "You're paying for boats, crew, divers and more. So the goal is to get as many shooting hours a day as possible. With HD, I come away with twice the usable footage as I could with Super 16. And the final product is higher quality — approaching images shot in 35mm."

Stay with the Action



"The system has five programs that adjust for changing conditions," he points out, "so we're never caught with the wrong stock loaded — and haven't had to risk losing a subject by surfacing for a lens or filter change."

Bob Cranston (right) with underwater HD pioneer Feo Pitcairn. Cranston's work can be seen in Pitcairn Productions' upcoming series, *Ocean Wilds* on PBS. Cranston is also credited with National Geographic's Emmy® Award-winning *Jewels of the Caribbean* and IMAX® projects including *Island of the Sharks* and *Ocean Oasis*.

Silent Running

The HDCAM™ has changed the way Cranston approaches sound recording. "In 16mm we'd often return later to record, and getting good sound was tough." Now the Sony runs silently so "I record while shooting, and things like whale blows and surf crashing sound more authentic."

Keep Rolling

"The long loads have been essential in capturing unpredictable animal behavior. Wildlife doesn't act on cue. With HD we can let the cameras roll. I was just down shooting gray whales in Baja. I'd been down 4 years in a row and was never able to get a breaching shot — its unpredictable. This time I just let the camera roll for the breach, and nailed it."

Much later, on the ride back to shore, Cranston watches his dailies on a shipboard monitor. The footage looks great. "Band Pro has been a huge help in my transition to HD," he says. "And soon I'll be able to go in and view my footage projected in their new HD Resource Center in Burbank. That's the kind of support I need."

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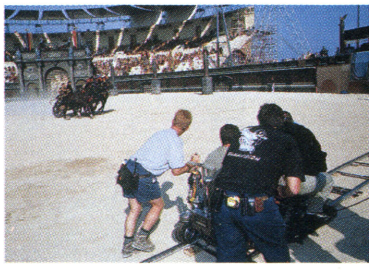

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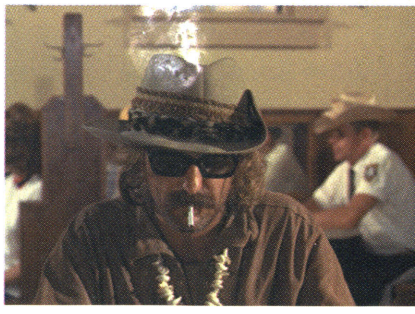

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On Our Cover: General Maximus (Russell Crowe) is stripped of his rank and forced to fight for his life in *Gladiator,* an epic Roman saga directed by Ridley Scott and photographed by John Mathieson (photo by Jaap Buitendijk, courtesy of DreamWorks SKG and Universal Pictures).

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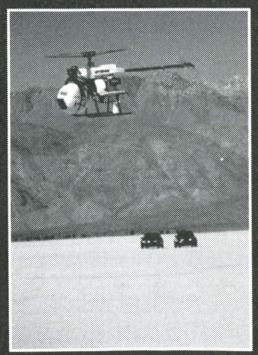

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May 2000 Vol. 81, No. 5
The International Journal of Film & Digital Production Techniques • Since 1920

American Cinematographer

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American Cinematographer (ISSN 0002-7928) established 1920 in 81st year of publication is published monthly in Hollywood by ASC Holding Corp., 1782 N. Orange Dr., Hollywood, CA 90028, U.S.A., **(800) 448-0145, (323) 969-4333, Fax (323) 876-4973, direct line for subscription inquiries (323) 969-4344. Subscriptions:** U.S. $40; Canada/Mexico $60; all other foreign countries $75 a year (remit international Money Order or other exchange payable in U.S. $). **Advertising:** Rate card upon request from Hollywood office. For **East Coast & Midwest sales (203) 761-9804, FAX (203) 761-0090, 387 Danbury Rd., Wilton, CT 06897.** For **European sales +44.1753.650101, FAX +44.1753.650111, Office 128, Pinewood Studios, Iver, Buckingham, England, SLO ONH.**
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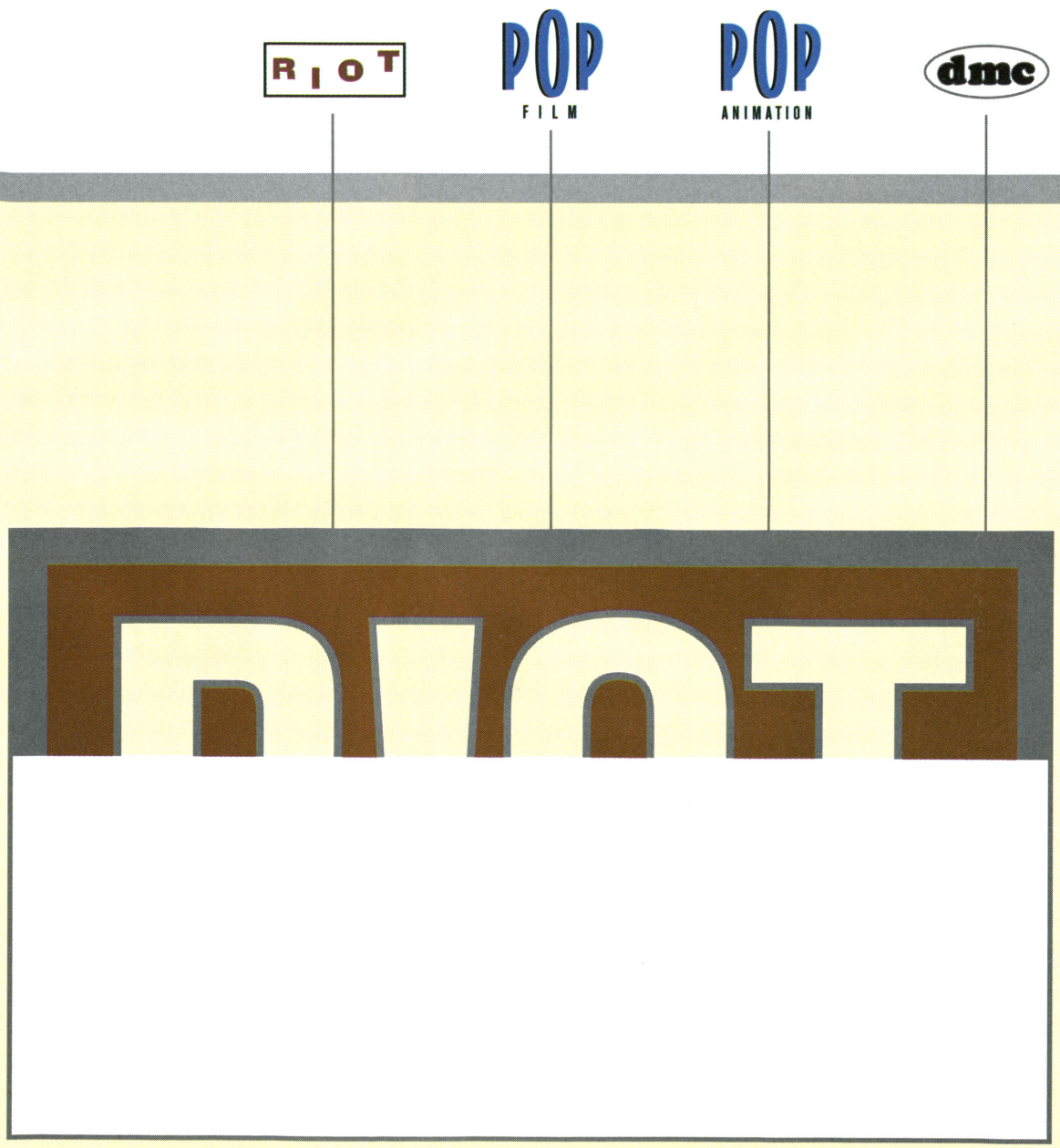

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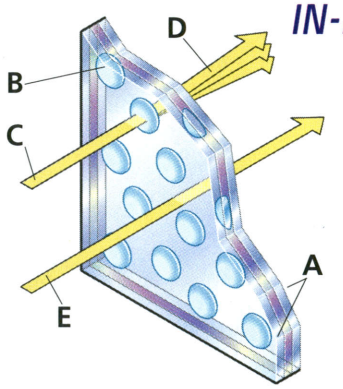

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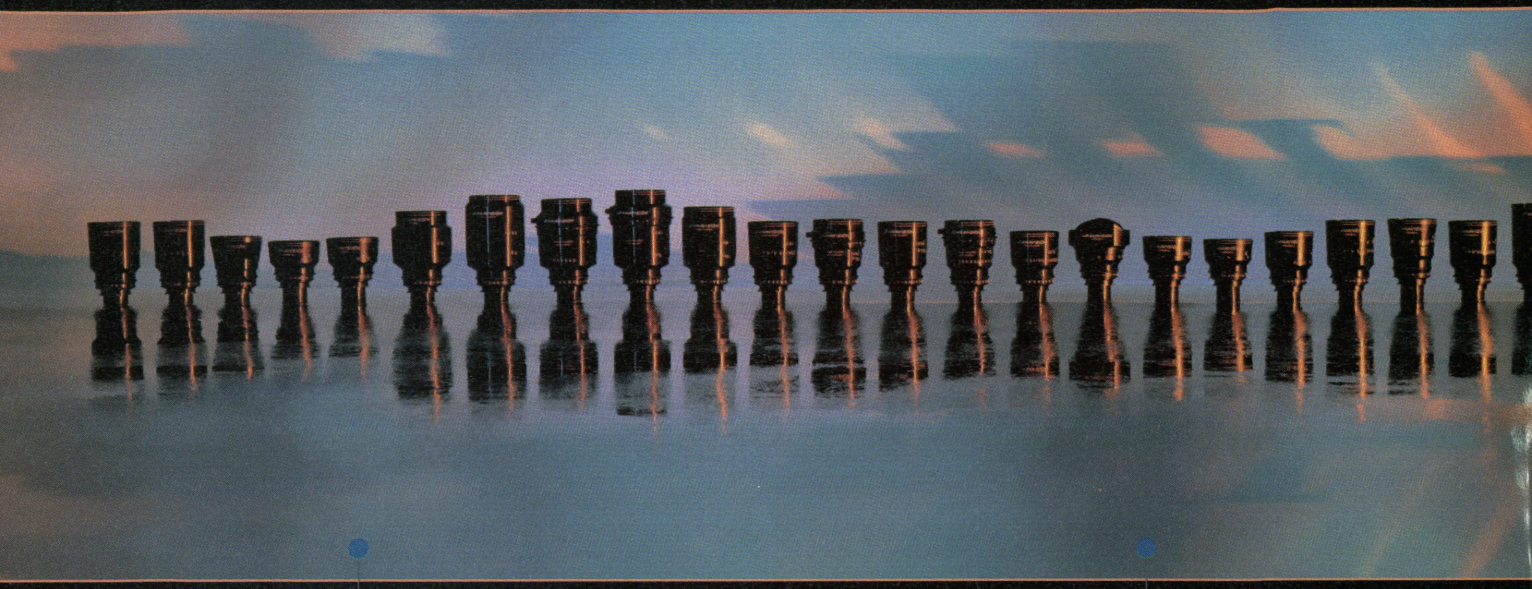

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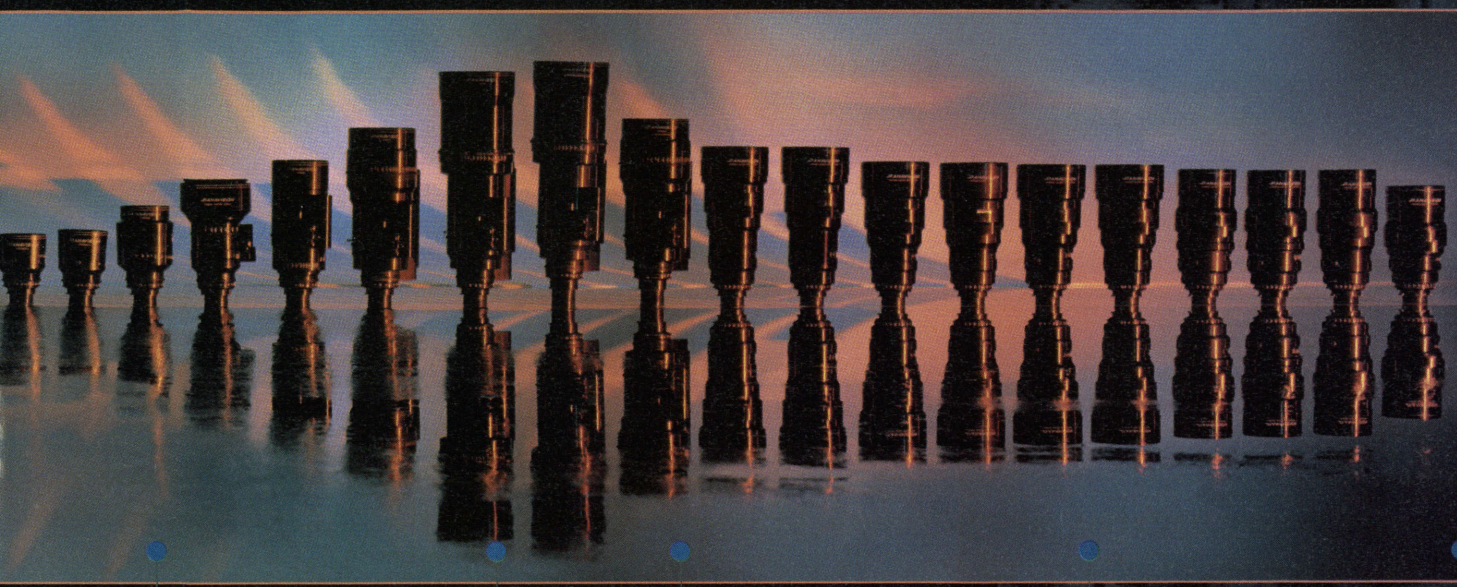

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100
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17.5>75
24>275
135>420
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primo anamorphic zooms

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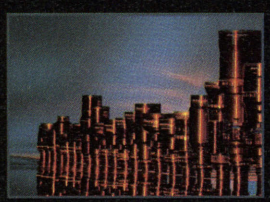

primo anamorphic primes

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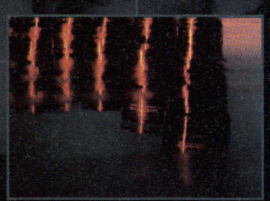

primo anamorphic close focus

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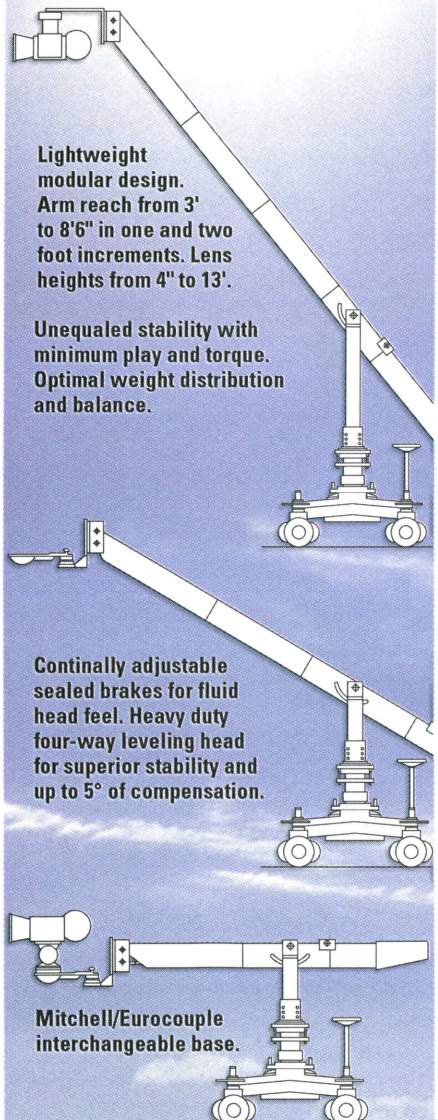

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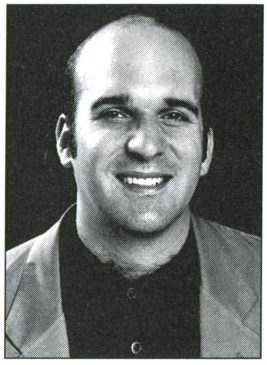

Ancient Rome has always been an ideal setting for epic motion pictures. After all, the great civilization of yore offers dramatic angles that Hollywood insiders can certainly relate to and savor: elaborate schemes of conquest and revenge hatched by omnipotent rulers; the marshalling of countless minions in the pursuit of a "grand vision"; and the chance to stage massive battles featuring thousands of participants.

Director Ridley Scott is no stranger to large-scale moviemaking, with a resumé that includes striking period dramas (*The Duellists, 1492: Conquest of Paradise*); mythological fantasy (*Legend*); and gripping science fiction (*Alien, Blade Runner*). This time around, he's teamed with a talented group of collaborators (including cinematographer John Mathieson and production designer Arthur Max) to modernize the "sword and sandal" genre with *Gladiator*. Our in-depth coverage of the picture examines the project from three key angles: cinematography ("Death or Glory," page 34), directing ("Veni, Vidi, Vici," page 46) and production design ("Rebuilding Ancient Rome," page 54).

Since our theme this month is postproduction, we've also included several articles that explore some after-the-fact artistry. "Urban Angst" (see Production Slate, page 26) details the cutting-edge post work employed on the indie film *Urbania,* which was shot in Super 16 and then transferred to video for offline editing. "Indelible Compressions" (page 96) reveals how DVD technology is spurring renewed efforts in film preservation, particularly among cinematographers supervising the revival of their work in the new format. Finally, "A Test of Hi-Def" (page 102) assesses the results of an experiment that MGM and The Post Group undertook on the comedy feature *Return to Me:* the use of high-definition technology for dailies, postproduction work and preview screenings. Although the project's director of photography, Laszlo Kovacs, ASC, expressed some serious reservations about this new process, it signals a potential trend that other cinematographers should certainly track.

This issue also present the second installment of our two-part series "Taking Stock" (page 118), a comprehensive analysis of both Fuji and Eastman Kodak's motion picture emulsions by cinematographers Jay Holben and Christopher Probst. This month, Probst assesses Kodak's Vision stocks and presents information that will surely prove valuable to camera crews everywhere.

Meanwhile, the warm glow of the 14th Annual ASC Awards is still lingering in the air. For those of you who couldn't attend, "A Night to Remember" (page 88) revisits the event in a festive photo spread. In addition, the article "Must-See TV" (page 60) offers interviews with this year's nominees in the television categories.

Sincerely,

Stephen Pizzello
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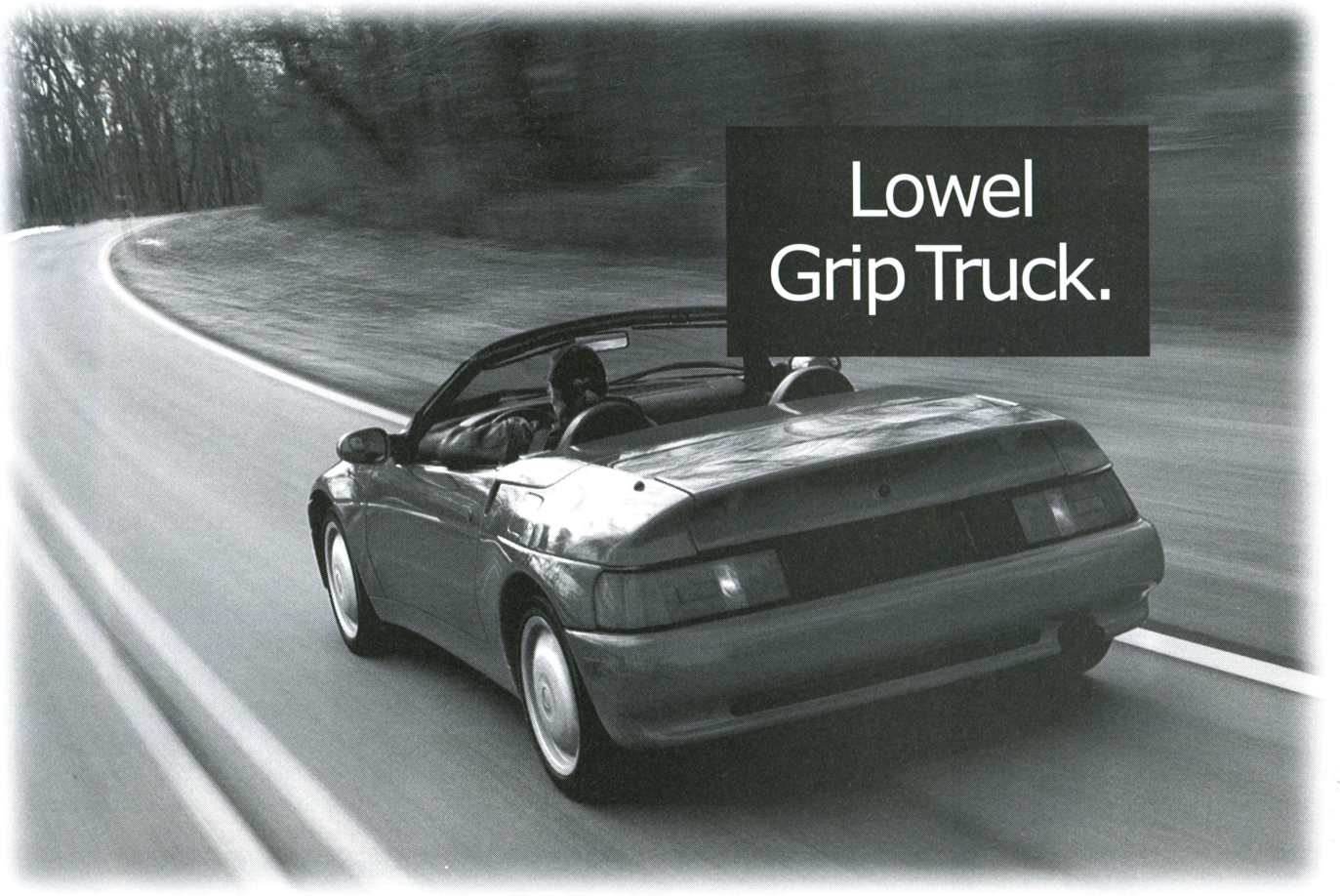

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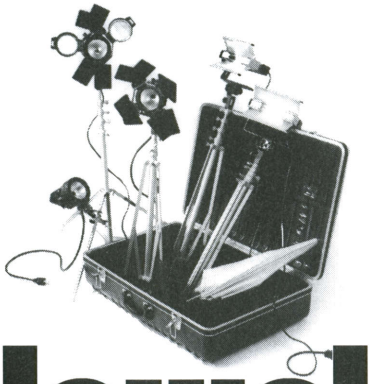

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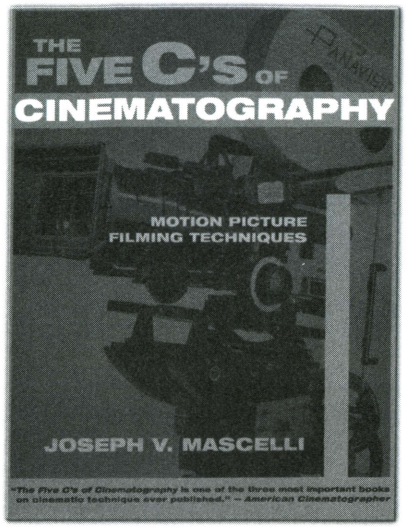

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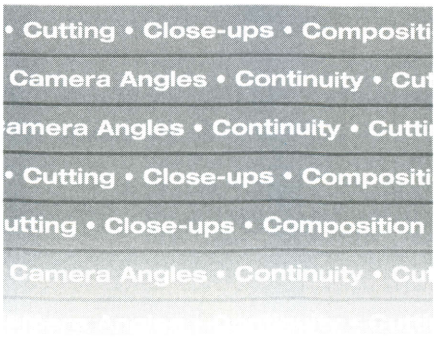

The Post Process

Classic Laughs: Restoring *Your Show of Shows*

by Debra Kaufman

Who says today's youth doesn't appreciate what's come before? In a lovely twist on that notion, three young Internet innovators are bringing Sid Caesar's groundbreaking television series *Your Show of Shows* out of the vault and onto VHS, DVD and the Internet. "It's been an amazing experience and a real labor of love," says Rich Tackenberg, a 31-year-old partner in Creative Light Entertainment.

Tackenberg and one of his partners, Scott Zakarin, met while doing production at an ad agency. They soon became known in Internet circles for *The Spot*, a soap opera that broke ground as one of the first online "Web-isodic" shows. While riding the wave created by *The Spot*, they founded Entertainment Asylum, an entertainment portal for AOL, and wrote a sitcom for NBC Productions which is being shopped around to the networks.

Tackenberg, Zakarin and the third Creative Light partner, Peter Jaysen, say they are looking "to create franchises with crossover potential for film, TV and the Web." But how did they come to devote their energies to *Your Show of Shows*, which reigned before they were even born? "When I was a kid, I would watch *Saturday Night Live*," recounts Tackenberg. "Finally, when I was about 14, my mother said, 'If you think that's comedy, I'll show you comedy.' She took me to the Museum of Television and Radio in Manhattan, and we watched two hours of *Your Show of Shows* and an hour of Ernie Kovacs. I was hooked, and I've been a big fan of Sid Caesar's ever since then."

So big, in fact, that the partners decided to option Caesar's autobiography and try to produce a feature film. While pursuing that dream, they met the influential comedian, who lives in the Los Angeles area, and began working with him. "He showed us poor video transfers of his sketches, and we were laughing our heads off," remembers Tackenberg. "I offhandedly said, 'Too bad you never put these old programs out there,' and he replied that nobody had followed through when they saw how much work it would take."

Creative Light Entertainment took up the challenge. The partners estimate that they spent more than a year and $200,000 of their own money to revive the old kinescopes for new generations. Although it's been a huge amount of work, everything has fallen into place. The kinescopes, stored in boxes at the Iron Mountain facility in Hollywood, were disorganized but in prime condition. Crest National, a postproduction house noted for its restoration and telecine capabilities, got onboard to transfer the kinescopes, and Creative Light Entertainment is authoring the DVDs itself.

The ultimate goal is to transfer all of the original kinescopes, but for now the company is creating a three-part series on VHS and DVD; the short-term goal is to release two more series of three tapes/disks each. The first series was released last month and focuses on the best 24 sketches. "We sat down with Sid and laid it all out, like the menu of an expensive meal," recalls Tackenberg. "There's a nice flow to everything on the tape. The hardest part has been narrow-

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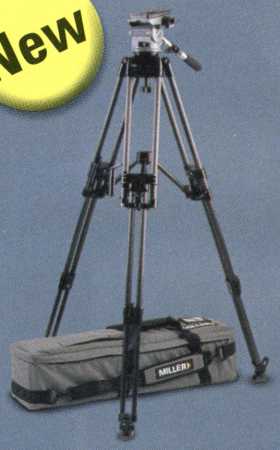

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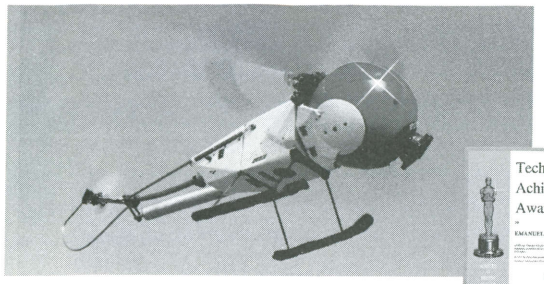

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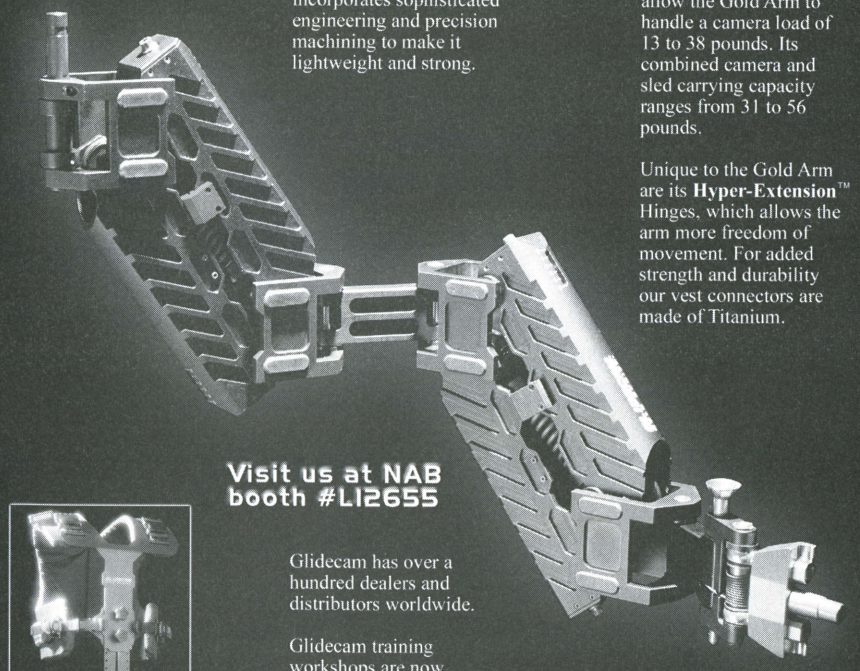

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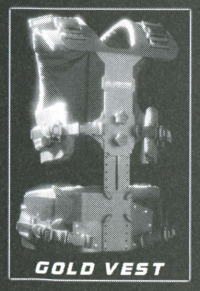

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ing down the material, because we each have our favorite sketches, and we got pretty childish fighting for which ones we wanted on the first three tapes."

There's more to the set than old sketches, however. In addition to Caesar's home movies and behind-the-scenes footage, the first volume features interviews with Caesar's original writers and stars, an illustrious group that includes Mel Brooks, Woody Allen, Neil Simon, Carl Reiner and Nanette Fabray. According to Tackenberg, no one who was approached for an interview declined to participate. Unfortunately, interviews with cameramen and directors weren't possible — at least this time. "The production values of the show were as pioneering as Sid was, and we hope to interview crew members from *Your Show of Shows* in the future," Jaysen says.

Crest National telecine colorist Terry Goins has been working on the project for over a month. Having transferred old kinescopes before — quite often, materials that were in terrible condition — he credits the storage facility for the pristine condition of the original elements. Transferring the kinescopes on a Cintel Mark III with Digiscan IV, he is mastering to Digital Betacam, using as little noise reduction and scratch concealment as possible. The telecine also offers Bright Eyes, a new, high-quality optical path that's part of the Digiscan IV, and the Clrview noise-reduction system. (Bright Eyes and Clrview are both manufactured by Digital Audio & Video in Burbank, California.) After transferring the tapes to DigiBeta, Crest National's restoration team will clean up the results frame by frame. "You won't be able to see the artifacts in real time," notes Goins, who adds that Crest National will also digitally enhance the kinescopes' original optical tracks. "Since this is going to DVD, though, people will be able to jog through frame by frame, and the restoration will clean up artifacts you'd be able to see."

The website www.SidVid.com is the place to go for clips of the sketches, exclusive photos, interviews and to purchase the tapes and DVDs. ■

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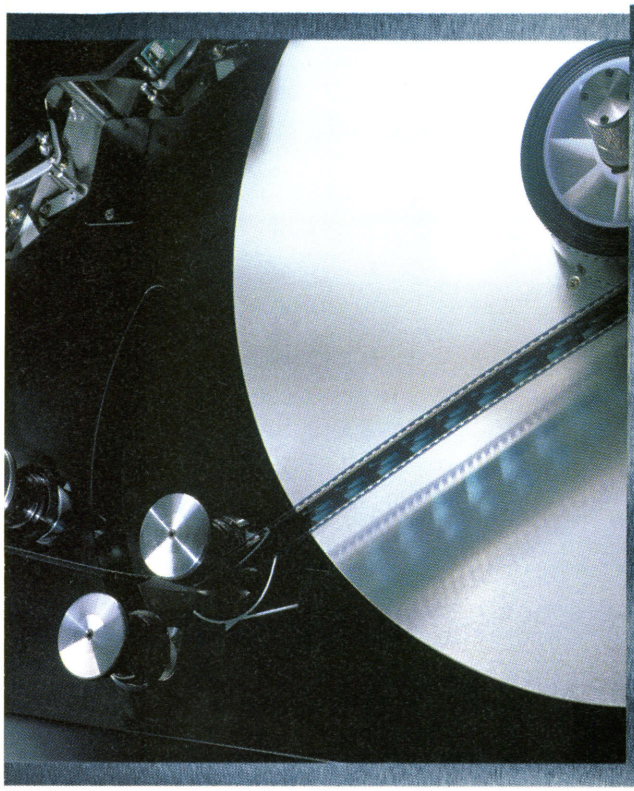

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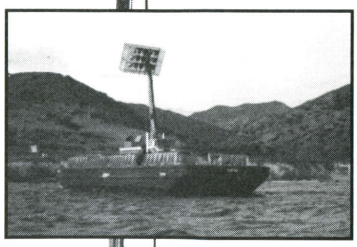

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DVD Playback

by Chris Pizzello

Natural Born Killers
Director's Cut
Trimark Home Video, $29.99

Natural Born Killers presents the fascinating, all-too-rare spectacle of an A-list director gleefully abandoning his self-editing function, seemingly frame-grabbing images from the most twisted corners of his subconscious and transferring them straight to celluloid. Rather than adopting a cool, distanced directorial tone toward the film's sweetheart serial killers, Mickey and Mallory Knox, Oliver Stone opted for a visceral, confrontational style that matched the mayhem wreaked by his lead characters. It was no-net filmmaking at its finest, and many critics and mainstream culture guardians misinterpreted Stone's bludgeoning satire as an unwitting endorsement of the bloodthirsty '90s culture it obviously meant to caricature.

Love it or hate it, *Natural Born Killers* (see *AC* Nov. '94) is a feast of outrageous cinematic style, presented in a pristine (though non-anamorphic) widescreen transfer and a booming Dolby Digital 5.1 soundtrack on this definitive Trimark DVD. Stone and Robert Richardson, ASC, took the complex fusion of film stocks and formats they'd experimented with on 1991's *JFK* and pushed the aesthetic to its most psychedelic extreme on *NBK*. Shot in a variety of formats, ranging from black-and-white 16mm to Hi-8 video to good old 35mm, the film has the disorienting feel of a television remote control that is channel-hopping furiously. Richardson plunged headfirst into Stone's anarchic vision — sometimes literally (at one point during production, the notoriously manipulative Stone goaded the cameraman straight into a prison-cell door while the latter was filming a handheld POV shot). The occasional bruising bout of "method cinematography" was well worth it, however; Richardson's stunning work on this film will be remembered as a high-water mark of radical '90s cinematography.

This director's cut of the film restores the frames that had to be excised to placate the MPAA and get *NBK* that all-important R-rating for theatrical release. Most of the reinstatements are very brief, except for the gruesome fate of Tommy Lee Jones's fascistic prison warden, which is lingered upon for several seconds. Elsewhere, the disk features a stream-of-consciousness commentary by Stone (who never misses a chance to point out the interesting color-coding used as psychological signposts throughout the film), his explanation of six entertaining but wisely deleted scenes, a truly bizarre alternate ending, and "Chaos Rising: The Storm Around Natural Born Killers," an excellent documentary about the *NBK* production — which, by all accounts, was as crazed as the film itself.

The Winslow Boy
Sony Pictures Classics, $27.95

At the other end of the ratings spectrum, we have David Mamet's G-rated screen adaptation of British dramatist Terrence Rattigan's 1946 play *The Winslow Boy*, a classy and refreshingly subtle entertainment that asks an ageless question: How far do you go to defend a moral principle? Set in turn-of-the-century London, the story follows a banker's family as they fight to prove the innocence of their youngest son after he is accused of theft. When a highly respected lawyer (played brilliantly by

ON FILM

ERIC VAN HAREN NOMAN

"One of the things I learned from the great cinematographers I've worked with is that we are there for the actors. It's our job to understand what they need and provide it. I try to plan every detail, but in the end, I trust my gut feelings...call it intuition based on experience. You can create impossible shots that come alive on film as long as you understand the boundaries. After all, making a film is a collaborative effort. The more difficult the challenge, the crazier the idea, the more interesting it becomes. I begin every film believing it will be my best work. But, the real magic happens when all of the elements come together—the story, actors and director. Everyone must share the same dream. Some people say I'm a workaholic, but I feel very fortunate. I get to spend my life doing the work I love."

Eric Van Haren Noman has compiled 55 telefilm credits since 1986, including *A Cry for Help: The Tracey Thurman Story*, *Lena: My Hundred Children*, *The Member of the Wedding*, *What the Deaf Man Heard* and *King of the World*. He has earned Emmy® awards for both documentaries and narrative films, and several nominations for ASC Outstanding Achievement Awards.

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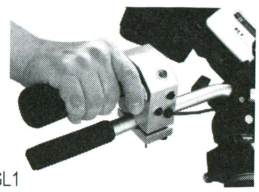

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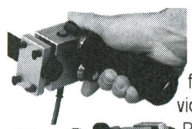

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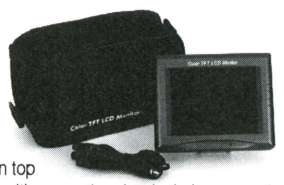

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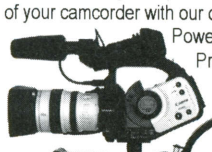

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Jeremy Northam) agrees to represent the boy, the case becomes an O.J. Simpson-like national spectacle, draining the banker's resources and putting a strain on the family's bond. This plot may sound a bit by-the-book, but both the lawyer's motives in taking the case and the Winslow boy himself are lent just the right note of teasing ambiguity, leaving viewers slightly off-balance at the conclusion.

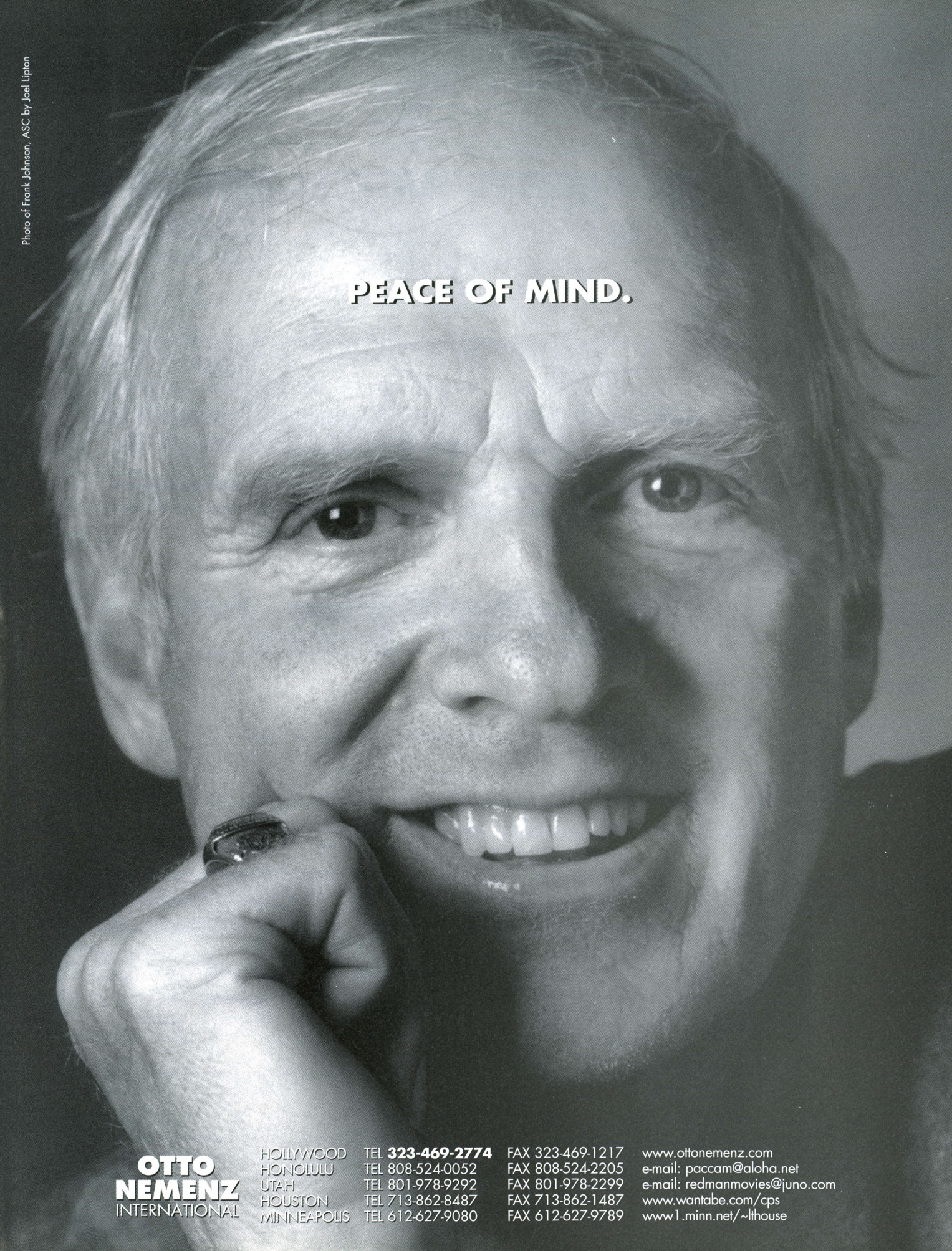
The Winslow Boy was photographed by Benoît Delhomme, AFC, with the simplicity and sly restraint that characterizes all of Mamet's films. A clever, underrated film stylist, Mamet spins this tale with a real dealer's hand. Unfortunately, the filmmakers' sterling work has been undermined by this package's disappointing widescreen anamorphic transfer, which suffers from a soft, gauzy picture, flesh tones that often veer too far toward pink and orange, and a noticeable lack of shadow detail in the dark areas of the frame (especially the male characters' black, period formal wear). For proof, check out the included theatrical trailer, which somehow looks far better than the DVD transfer! The extras are solid, however, and include a behind-the-scenes featurette, talent files, production notes, and a polite, civilized commentary track from Mamet and cast members Nigel Hawthorne, Rebecca Pidgeon and Northam.

Blue Collar
Anchor Bay, $24.98

With its tragically flawed heroes, gritty milieu and uncompromisingly grim ending, *Blue Collar* is a quintessential '70s film. Director/co-writer Paul Schrader's underrated classic was mismarketed upon its 1978 release as a Richard Pryor comedy, and promptly sank like a stone during its theatrical run. The film stars Harvey Keitel, Yaphet Kotto and a manic Pryor as three likable but bitter Detroit auto-factory workers who hatch a hilariously inept scheme to rob their ineffectual union's coffers. In the process, Pryor uncovers documents detailing the depths of the union's corruption. The trio's decision to blackmail the union — and the union's decision to play hardball — not only puts a strain on their friendship but also eventually places them in mortal danger.

Hopefully, Anchor Bay's recent DVD release will attract some long-overdue attention to this sleeper. The widescreen anamorphic transfer is solid but unspectacular. Though *Blue Collar* was never designed to be a visual feast, the appropriately unpretentious, "working class" images (captured by cinematographer Bobby Byrne, ASC) have a soft patina throughout; the disk just doesn't boast the crispness that DVD lovers have come to expect. On the plus side, the print is almost completely free of artifacts, and the colors are lively and accurate.

What really makes this DVD worth the price is one of the most rollicking director commentaries in recent memory. In an innovation that hopefully will catch on elsewhere, Anchor Bay has employed a foil in journalist Maitland McDonagh, who contributes her own sharp insights while keeping Schrader on course. The director is frank and self-effacing, admitting that because *Blue Collar* was his first effort behind the camera, he was "just trying to stay alive" and often left the visual responsibilities entirely up to Byrne. Those who have seen the director's later, more stylish films (which include *Cat People* and *The Comfort of Strangers*) might be surprised by the lack of camera movement and even the dearth of cuts in some of *Blue Collar*'s scenes, but Schrader reveals valid reasons for the lack of coverage: the boiling tension among his three lead actors was so hot he never knew when one of them would storm off the set or even physically assault one of the others. This potentially explosive situation forced the filmmakers to capture conservative first takes with all of the actors in the shot, so that Schrader would have *something* on film. These revelations — entertaining, candid and educational — are why director commentaries were created. ■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Production Slate

compiled by Douglas Bankston

The flashy lifestyle of unrepentant flesh peddlers is showcased in *American Pimp*, a new documentary by Allen and Albert Hughes. The brothers note that they didn't set out to glamorize the seamy profession, but found that "the outlandish look of these guys, their clothes and their cars are what initially reels the women in."

Mack Daddies

by Eric Rudolph

Allen and Albert Hughes's new documentary, *American Pimp*, is a disturbing and unforgettable look at men who claim to control the minds of women they turn out to a life of street prostitution. The Hughes brothers have long been fascinated with pimps; they say that while growing up, they had a relative who dabbled in the business. They decided to make *American Pimp* after concluding that their plan to film the notorious book *Pimp* (the autobiography of a man who calls himself Iceberg Slim) would attract too much controversy. "[It would have] typecast us as directors," Allen speculates. "We would have been slammed, and it would've been hard, politically, to get over that, no matter how good the movie was. *American Pimp* is not a fictional feature; it's these guys, their words and their stories, and it's really not taking much of a slant."

The pimps on view in the film boast that the women whose lives they manipulate almost never get a day off and retain zero percent of their earnings. They appear to do nothing in return for the women's bizarre devotion. "I have no problem with people who hate the film politically," Allen says. "I don't think they should love it. To me, the most interesting thing is that some women who have seen the film will say, 'I really like these guys. I think they're funny.' That bothers me."

However, Allen concedes that it was inevitable that the pimps would be glamorized to some degree. "There's no way to do a pimp, mob or thief movie without glamorizing it. The outer appearance of the pimp lifestyle *is* glamorous. The outlandish look of these guys, their clothes and their cars are what initially reels the women in." What is less clear is why these women agree to sell themselves on the streets. "I went into this film thinking that the lure was some mystical thing the pimps were telling these women," Allen admits. "Albert and I thought we might learn how to get better dates or something!" Instead, the brothers determined that the pimps' iron grip was simply a matter of the strong exploiting the weak. "These women are emotionally unstable, and they've been molested or abused as children. They've got problems, and they're not the brightest women in the world, so the men simply prey on them." Allen terms the pimps "sociopathic psychologists."

The documentary, the Hughes brothers' third film, served as a way of keeping the team active. Their last film, *Dead Presidents*, was released in 1995.

"We've been offered a lot of projects, but we haven't found much worth doing," Allen maintains. "We're finally in preproduction for our Jack the Ripper film, *From Hell*, but *American Pimp* is the only thing that has kept us active and involved for much of [the past] five years."

For Allen's twin brother and co-director, Albert, the biggest challenge posed by *American Pimp* was his new

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The Hughes brothers interview one of their subjects at a community park. Albert says that "shooting the film myself helped my vision to become a lot clearer."

role as cinematographer. "I had very little experience, and things like loading the Arriflex in the dark were tough for me to master," Albert says. "But Allen and I have always been a bit uncomfortable working in the traditional Hollywood style, with a cinematographer and operator and so on. We're used to shooting run-and-gun style from film school. Communicating what you want through someone else takes a while, and our vision of things has been really filtered because of that process. You say to yourself, 'I'm not going to do that move or use that light; it'll take too much time.' While shooting *American Pimp*, I learned that you can get some pretty effective shots fast and without a lot of light. Of course, the material lent itself to that gritty approach."

Once Albert conquered the basics, making the film was a revelation for him, and the results are likely to reverberate throughout the brothers' future work. "Shooting the film myself helped my vision to become a lot clearer," he explains. "Making the film from behind the eyepiece was instantaneous; I didn't go through a cinematographer, gaffer or crew. I found what I wanted to do pretty quickly. That experience honed my eye, so I now know really clearly how I want to shoot our next feature."

As the production got underway, shooting took place on weekends. Albert recalls, "We interviewed one pimp while shooting with a Super 8 rig. We showed this material around to people like Miramax, and they made good offers, but they'd only seen the Super 8. We hadn't even moved on to the 16mm footage." He then hauled out his old Arriflex SR-1, which he says he hadn't used that much or even maintained that well. The camera was fitted with an Angenieux zoom and a 5.9mm prime lens.

Lighting gear was kept to a minimum to facilitate traveling. "I carried one Arri 650-watt Fresnel light and one 300-watt Arri Fresnel, almost like a Dedo light," Albert details. "I chose those lights because I could pack them in with my clothes in my luggage. I'd carry the camera on the plane." Later in the shoot, he added some small Lowel stickup lights to his package.

The colorful, provocative lighting scheme used during the film's key interviews developed in a casual way. "I would show up, and there'd be no usable light, so I'd set up my 650," Albert says. "With Jade, one of the prostitutes we interviewed, I used a deep-blue gel on the 650, but during the transfer, we changed the color to be a bit more aqua. I simply liked the effect of her in blue, with her projected shadow on the wall behind her. I would've liked to have done a more professional job by using some white edge light, but it was really just a trial-and-error situation."

Another evocative sequence centers on a legendary San Francisco pimp named Fillmore Slim — who, according to others interviewed in the

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film, has been pimping for 60 years. As Slim walked down a dark alleyway, Albert used the 5.9mm lens and a small, green-gelled Lowel stickup light powered by a battery pack. "I put a green gel on the light because I saw a green neon liquor-store sign in the background. The scene is very underexposed and intensely grainy. I'd taken the reading and it was wrong — the meter said f4 and it really needed something like an f2." Despite the inaccurate reading, the gritty, grainy scene has an ominous mood that effectively underscores the sequence.

The main interview with Fillmore Slim uses another dramatic lighting approach — a slender shaft of light playing across the septuagenarian's face. True to the spirit of the film, this approach evolved somewhat accidentally. Albert explains, "I found an angle looking down on him, and my brother questioned me about the choice. I liked the look of his suit and tie and the leopard-skin chair he was sitting on, and [that composition] was the best way to get all of that detail in the frame. I used a raking light without any gel, and his hat cut off a lot of the light, which fell more on his chest than his face."

Albert adds that he often gelled the lamps that were found on location, using them in combination with his small movie lights. "I tended toward gelling rather than using white light, because it was a pimp movie and I could get away with the wild colors! One time, I didn't have any of my movie lights, or what I had wasn't working, so I just used the table lamp that was sitting right next to the subject." The uncorrected lamp bathed the pimp in a warm, orange glow.

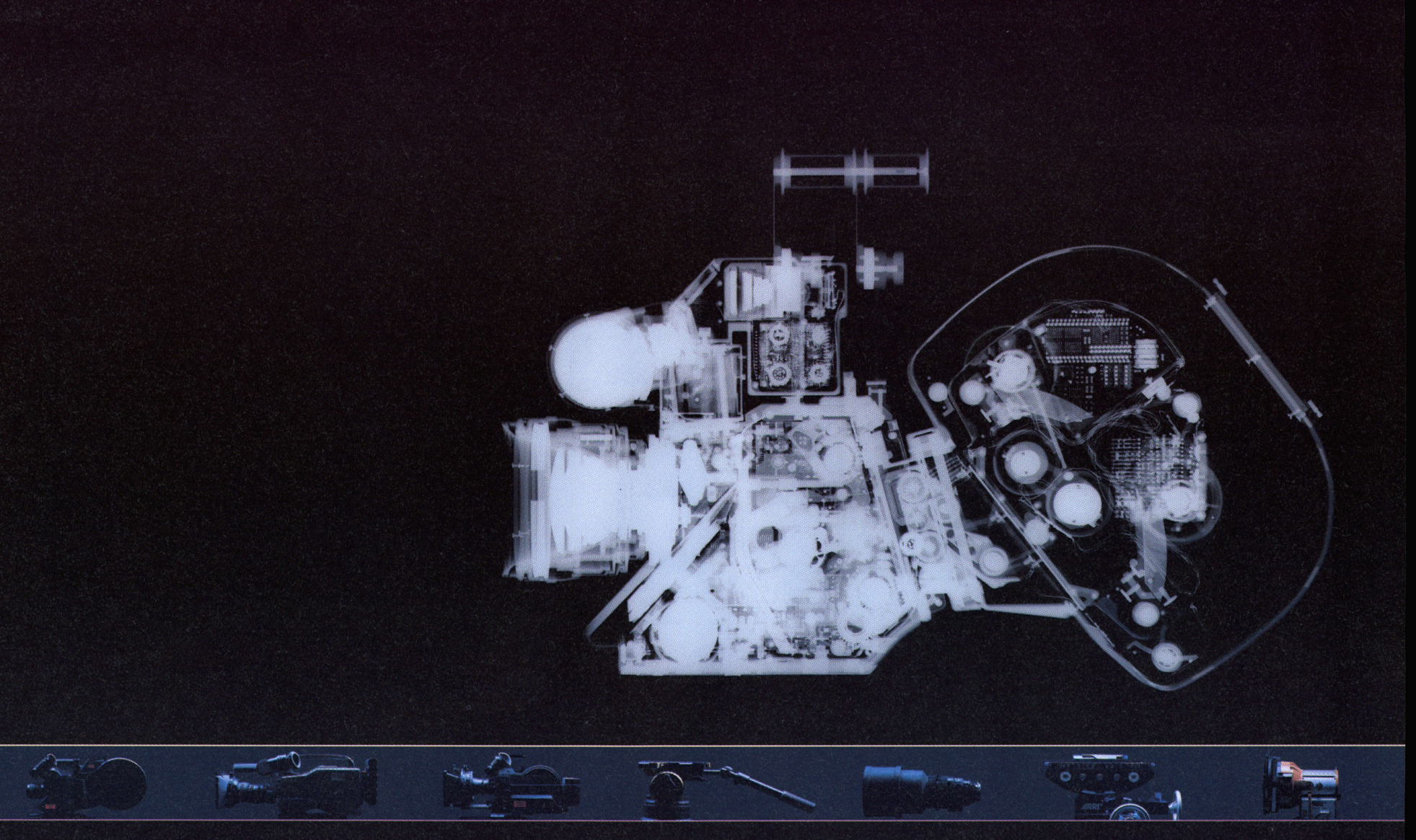
At times, Albert's found light sources were even less sophisticated than a common table lamp. "We would shoot in cars and sometimes use the little visor mirror light, and that was enough with Kodak's Vision 500T 7279 stock. We eventually got the little Lowel stickup lights and plugged them into the cigarette lighters." Once he gained more confidence, Albert switched to a slower stock. "About halfway through [filming], we started using EXR 200T 7293 for some interiors. It was nice — it made the lighting look better than it really was!" he laughs. Some of the daytime material was actually shot with EXR 100T, but Albert says he used the fast 7279 for some daytime scenes as well.

For a moving shot that follows a pimp who is driving some of his girls to a casino in his Rolls Royce, Albert mounted one of the small Lowel lights on top of the camera. "I was hanging out of the back window of my brother's Lexus with the 5.9mm wide-angle lens, and it worked; we had a nice traveling shot!"

The brothers shot about 50 hours of footage, only about an hour of which was digital video. "We try to avoid using [digital video] because we really love the look of film," Albert says. Stills were shot on 35mm film by Billy Vasquez. The Hugheses also loved the look of the Super 8 footage, which was taken with a Beaulieu double-system sound camera they bought from Super8 Sound. "I liked using the Super 8 Kodachrome reversal stock," he continues. "I didn't care for the negative film Super8 Sound sells, [so] I only shot one roll of that. The Kodachrome is really bright, and I like it even better than some of the 16mm."

The brothers likened their mixed-format approach to that of Robert Richardson, ASC (*JFK*, *Natural Born Killers*, *Nixon*), whose methods they both admire. Albert offers, "[Mixing film stocks and formats] has become more of an imitated gimmick now, but when he started it, I thought it was pretty innovative. He's shown us that you can change stocks and textures in a feature, so you can definitely do it in a documentary. It's great to have that freedom. It would have been very hard [for us] to maintain a consistent look. I could have tried, but the weaknesses would have really showed."

The 35mm prints of *American Pimp* were made directly from the online video master. "We went to EFILM, which was just great," Albert says. "However, I think you almost have too many toys at your disposal when you're doing the online and the transfer, and I wouldn't do it that way again. I wound up spending a lot of time adjusting things, and you don't



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really need that much control for a gritty documentary."

Albert is excited about what he learned shooting the documentary and is eager to apply his new knowledge to the brothers' next project. "Making *American Pimp* opened our eyes and showed us that you can shoot something yourself without being all that experienced. You can actually do a movie using trial and error. You don't have to shoot a pretty film; you can shoot a gritty film that has a certain quality. We met with Francis Ford Coppola recently, and he was telling us about making *The Rain People* run-and-gun-style. He knew back then that you could make a movie without the studio system."

Despite his confidence, Albert will not be the cinematographer on *From Hell*. (He will, however, do the project's storyboards, as he has on all of the brothers' films.) Instead, the duo has hired Peter Deming, ASC *(Music of the Heart, Austin Powers: International Man of Mystery)*. "We hired him because of his work on David Lynch's *Lost Highway* [see *AC* March '97]; he handled the darkness in that film really well," Albert notes. "We'll probably do less cutting and more combining of shots in longer takes, choreographing the images more fluidly rather than planning out the A-shot, B-shot and so on. That approach resulted from my looking through the eyepiece on this film for two years, figuring it all out for myself. I think I know how to get what I want — much more so than in the past."

Urban Angst

by Bob Fisher

Urbania, a 2000 Sundance Film Festival entry based on Daniel Reitz's play *Urban Folk Tales,* marks the directorial debut of actor Jon Shear. The story probes the psyche of Charlie, a character who, after suffering an emotional trauma, begins having flashbacks and encountering some unusual people. After playing the lead role on stage (under his stage name, Jon Matthews), Shear optioned Reitz's story and spent 2 ½ years adapting it for the screen. It took him just 18 days to shoot the film, which was an exercise in minimalism for cinematographer Shane F. Kelly, whose main tools were a vintage Aaton LTR camera, two magazines and a Canon 11.5-160mm zoom lens meant for a video camera.

But while the material for *Urbania* was captured on Super 16 film with relatively low-tech tools, Shear explored new territory at the postproduction stage: the Super 16 film was transferred to video and edited offline, whereas the traditional route would have been to conform the Super 16 negative to the edit decision list and use that as a master for making a 35mm blow-up on color interpositive film. Instead, the EDL was used as a guide for converting original negative directly to digital format using a Philips Spirit DataCine at Cinesite in Los Angeles. The Spirit DataCine is capable of producing 2K resolution data files that faithfully retain the color depth and levels of contrast recorded on the negative.

"We worked with Jon [Shear] in a Cineon suite to create dissolves, opticals and titles," says Sarah Priestnall, director of digital mastering operations at Cinesite. "He was able to manipulate discrete colors within frames, and also alter frame rates to speed up or slow down action. In one scene, he made a towel bluer without affecting other colors. You can also alter grain and contrast and create [specific] looks for shots, scenes or the entire movie."

Shear color-timed *Urbania* in the digital suite, with Kelly consulting. Afterwards, Cinesite used a Kodak Lightning laser recorder to convert the digital master file to analog images captured on color intermediate film. "We created a 109-minute film with some 1,500 cuts and no splices," says Shear. "We also avoided the need to make an optical 35mm blow-up, so the film we [screened] at Sundance was answer-print quality. I should thank [writer/director] Gary Ross, because I got the idea from an article I read in *American Cinematographer* [Nov. '98] about how he used many of these techniques at Cinesite during the making of *Pleasantville*."

Priestnall notes that the digital master file will also serve as the single source for all subsequent releases of *Urbania* in film and television formats, including high-definition television. "There was a lot of press about digital hi-def production when we were planning *Urbania*, but I love the texture of film," Shear says. "I wanted cool backgrounds and hot content, which are point and counterpoint experiences. I was determined to start shooting as soon as we raised $60,000, before we lost the cast to higher-paying projects."

Kelly, a native of Northern Ireland, worked in London as a production assistant and progressed to shooting and editing concert films. In 1992, he moved to Seattle, where he shot videos and concert films. Four years later, he relocated to Los Angeles to pursue work on narrative films. He met Shear through

Charlie (Dan Futterman) and Brett (Alan Cumming) admire themselves in a mirror in *Urbania*.

Photos by Tamera Barton, courtesy of Commotion Pictures.

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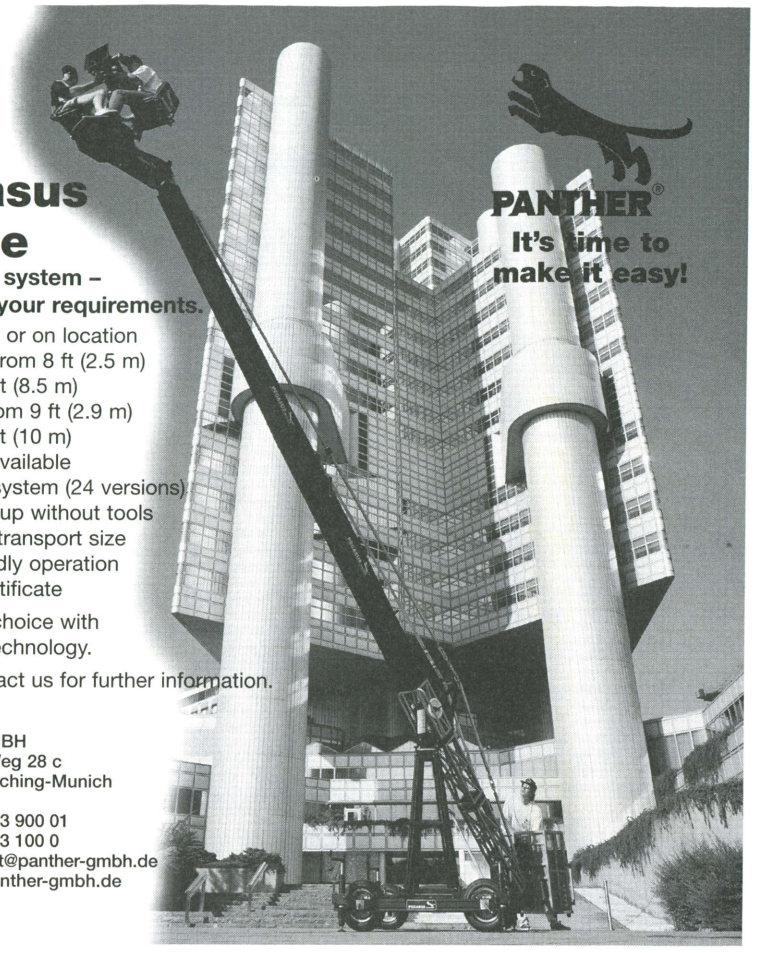

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unit production manager Mark Dziak, and he only had about a week of prep time to scout locations for *Urbania* in New York and New Jersey.

Shear discussed his ideas about colors, levels of saturation and the vibrancy of images with Kelly during the abbreviated prep period, and the film's visual style evolved during the first week of production. Kelly blended aggressive, handheld camera work and three days of Steadicam work with static, medium shots at eye level, as though Charlie is eavesdropping on other people's conversations. Shear recalls, "I'd tell Shane, 'In this scene, we want to start out close in on Charlie's face and pull back until he's isolated in a corner of the frame.' He'd say, 'That's nice, but we can't afford a crane, so let's rent a jib and have someone hold it.'"

Most of the time, Kelly found sodium-vapor sources at locations, and in those situations, he used the colors of Manhattan to his advantage. His lighting instruments consisted of three 1,200 HMIs and a small tungsten package with nothing over 2K. "We only had a little Honda generator, but the crew found electricity everywhere, including street lamps and fuse boxes in apartment houses," he says. "I guess you could call it 'guerrilla filmmaking.' One time, we finished shooting at 11 p.m. and found out that we had lost two of the four locations planned for the next day — one to a commercial company that was able to pay a lot more. We scouted streets where we had permits until we saw a perfect bay window from the outside. We waited on the doorstep until someone came home at 1 a.m.; she told us it was the landlady's apartment. We knocked on her door, and convinced her to let us use it as a location."

Kelly continues, "I shot about 95 percent of *Urbania* with Kodak Vision 500T [5279] film because I needed the speed. You actually have to be careful, because it has a broad range of latitude and it sees subtle things deep in the shadows even if you don't use fill."

Much of *Urbania* was shot in relative darkness, and Kelly used

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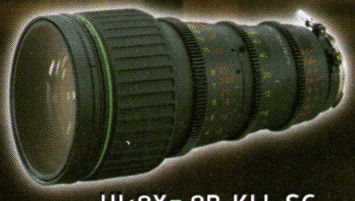

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Chris (Matt Keeslar) and Charlie party at their pal Brett's house.

shadows to hide characters and small patches of light to reveal them. In one scene, Charlie meets a soap-opera actor who steps out of the shadows and reveals that he is the person the audience sees on a TV screen. Shear made an on-the-spot decision to hide the actor's face early in the scene. "There's another scene near the end that takes place in a marsh on a really cold night," says Kelly. "There's a lot of movement by characters. It was supposed to be a foggy night, so I had a smoke machine going, and I used headlights coming from a diagonal angle through the plane between the actors. I was getting the lens right into people's faces, moving around the actors and following their movements. A Steadicam would have been much too slick; the handheld camera gave the scene the vitality and energy it deserved."

Most of the time, Kelly shot interiors in small apartments, where the crew didn't have the time (or permits) to build scaffolds for lighting through windows. He began blocking by asking the production designer how many practical lamps he could realistically put on the set, or if he could put a 250-watt bulb on a dimmer. He relied a lot on Chinese lanterns, which technicians frequently held at the edge of the frame. "It's a fast and inexpensive way to get beautiful, soft light with built-in diffusion," he says. "The lanterns create a warm look that's right for most night interiors."

His static shots were usually captured from a tripod, though he also used a doorway dolly. On exteriors, Kelly sometimes sat on the dolly and used that position to cushion a handheld shot. "In one scene, I was lying on the dolly, handholding the camera while it was being pushed down a hallway," he says. "It was like a Barry Sonnenfeld shot on *Miller's Crossing*. I don't think it made the final cut. We also shot a few scenes from a ladder. I would have loved a crane, but it wasn't possible, so we improvised.

"I tried to shoot at T2.8 to get shallow depth of field, so the images would be as close as possible to that wonderful, three-dimensional quality you get with 35mm film," Kelly continues. "Even that was an aesthetic compromise. Sometimes, in flashbacks, I would have liked to have lit for T5.6, but that just wasn't in the budget. I overexposed the negative very slightly and built more contrast into the frame, trying to create a feeling of depth with a three-dimensional quality.

"The digital intermediate technology is a great tool," Kelly concludes. "We didn't have to worry

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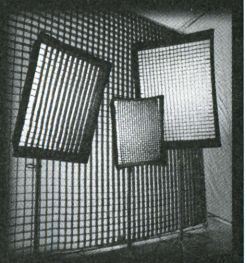

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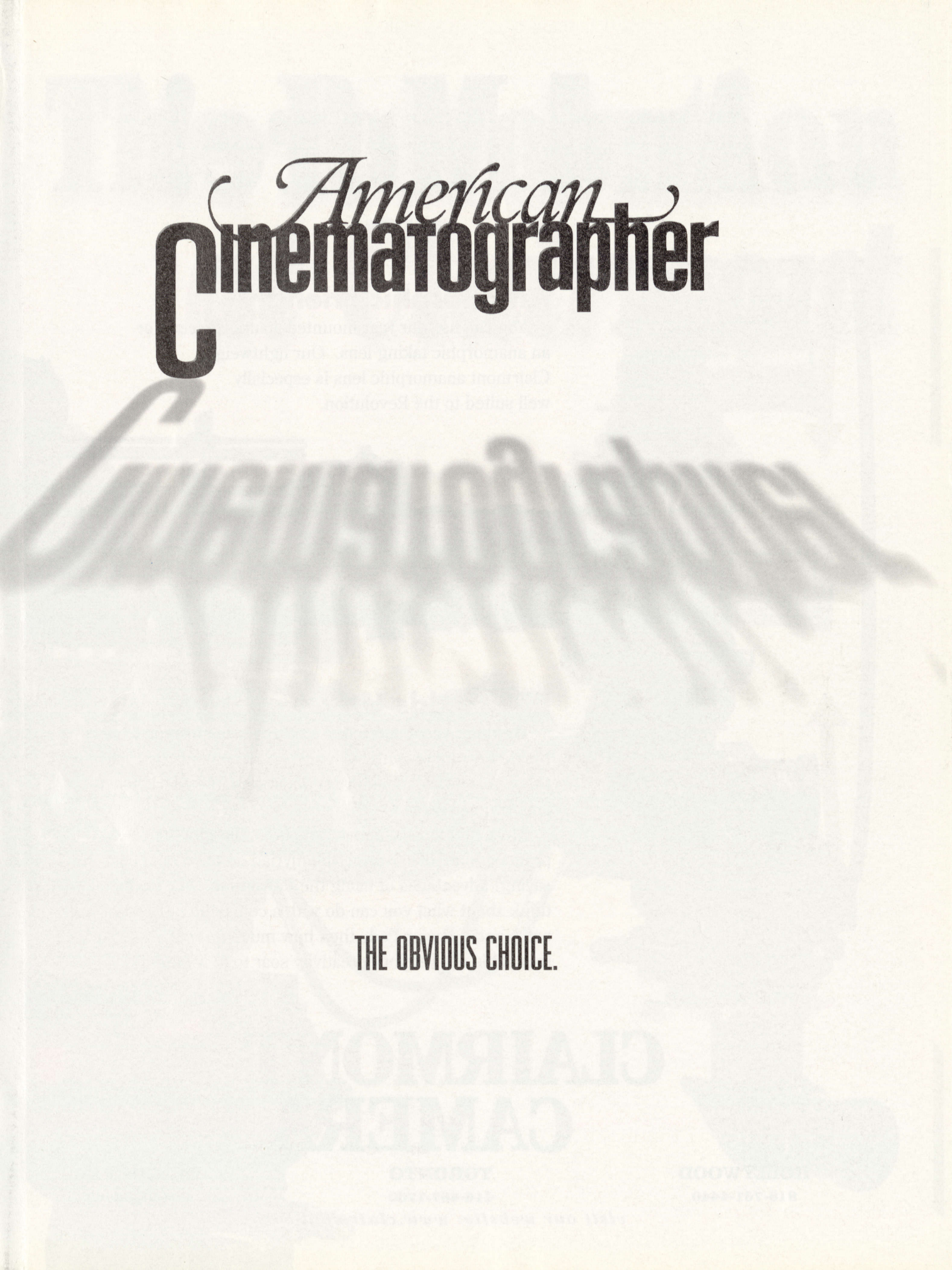
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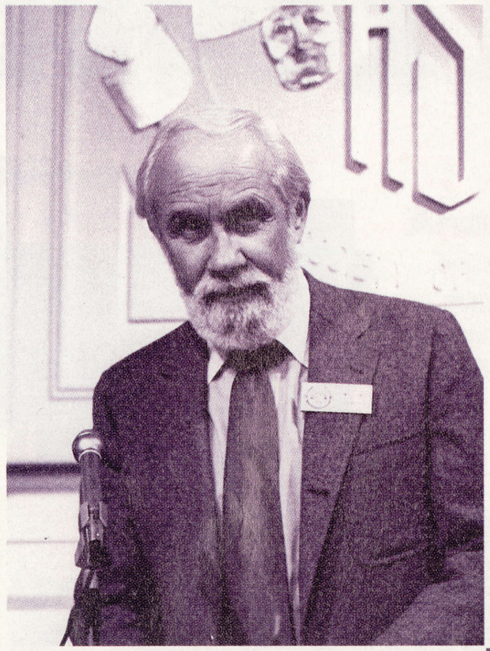

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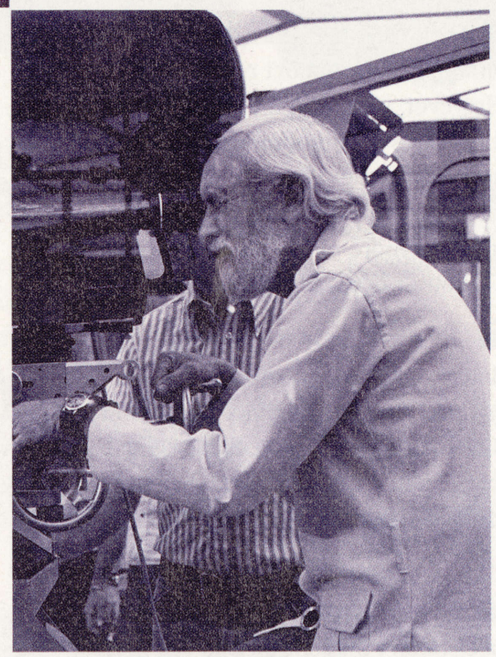

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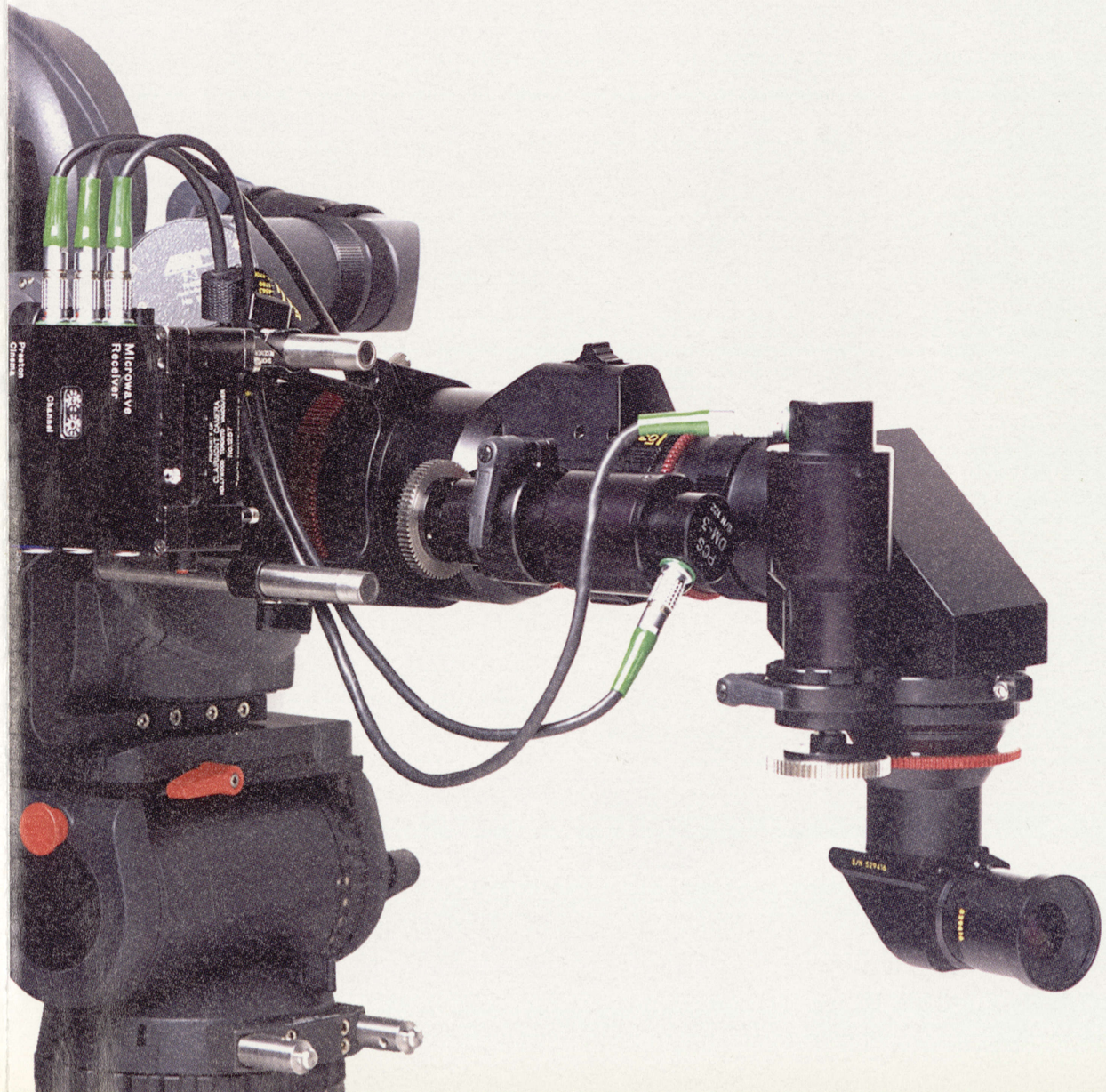

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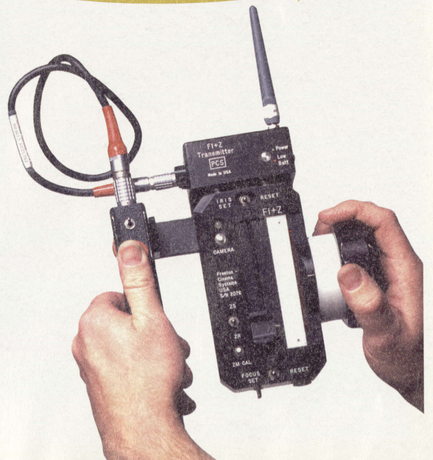

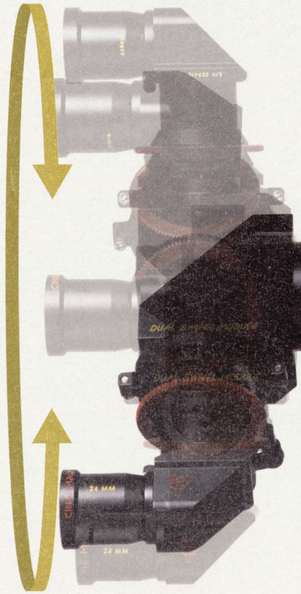

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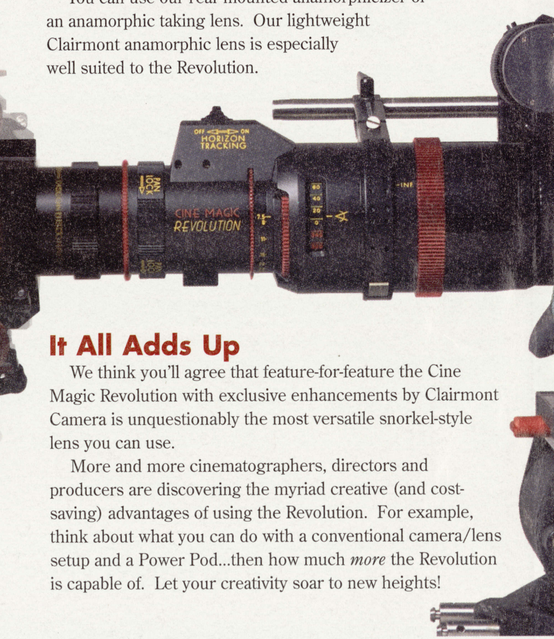

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about how many cuts, dissolves or speed changes we made in post. They were essentially free because we did it in the computer, and there's no generational loss of quality. That makes it a different movie. The convergence of movies and music videos really became obvious to me when I saw the wonderful freeze-frame shots in *Out of Sight*. The audience grew up on videos, and now they see that look in commercials and TV shows; they know how to read it. You used to get that effect in the camera with double exposures and matte paintings, [but] now you can do it in a digital suite at film resolution."

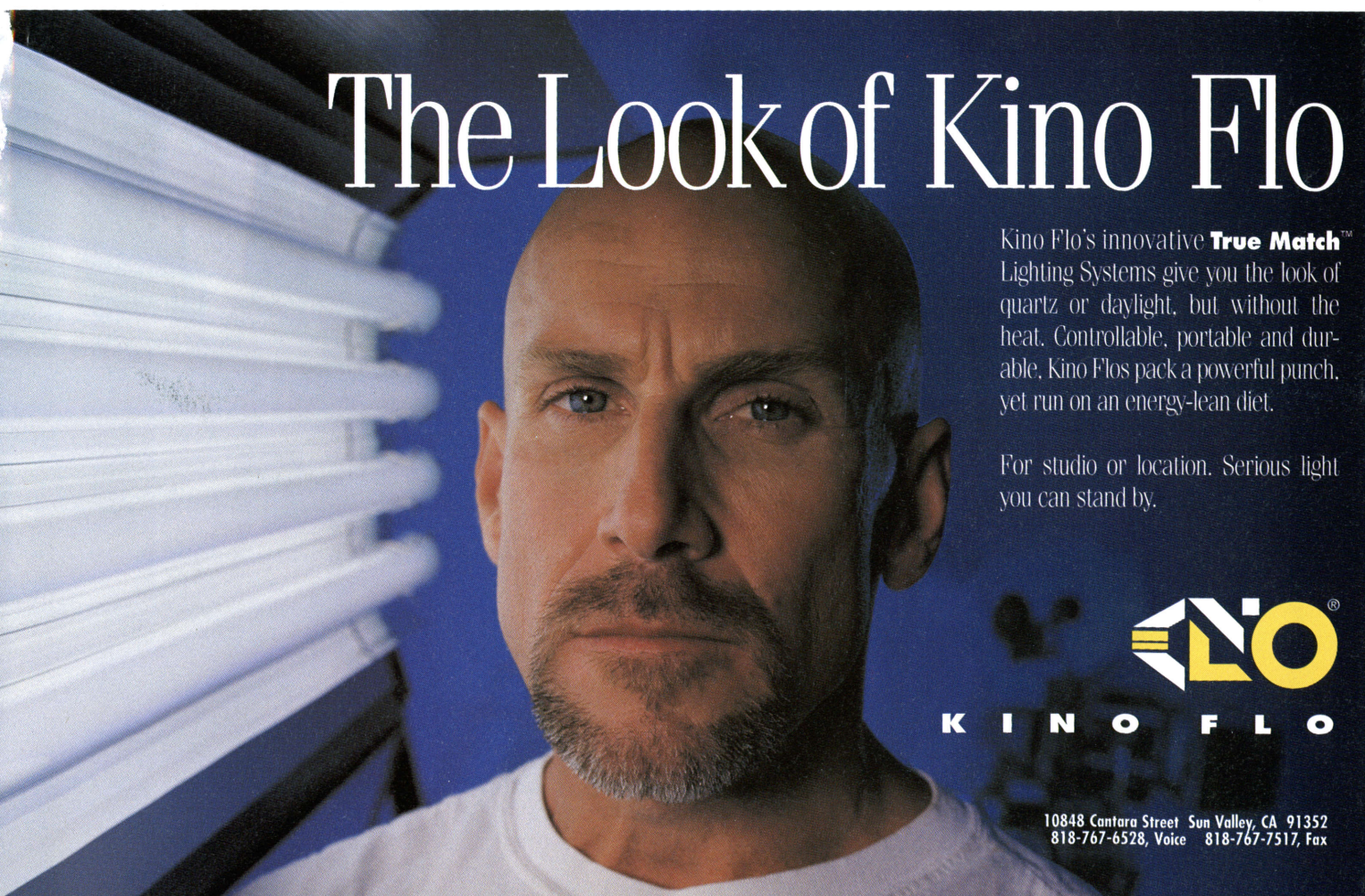
Defying Odds in Cyberspace

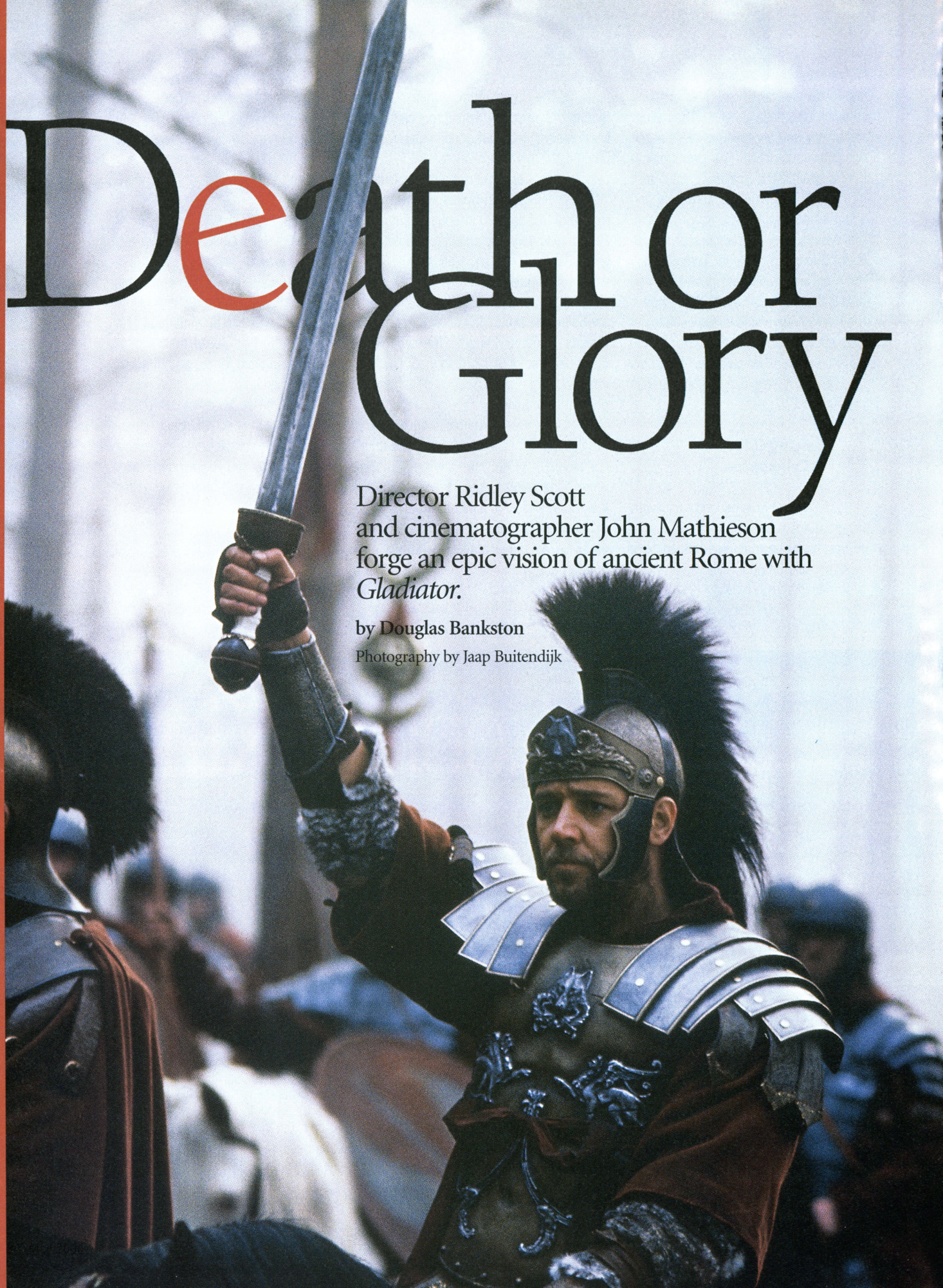
The first film produced exclusively for global Internet distribution, *Quantum Project*, can be downloaded to your desktop beginning May 5 from SightSound.com's movie- and music-distribution Web site (www.sightsound.com). The cyber film, which runs roughly 40 minutes, was produced by Metafilmics, the same company that brought the metaphysical drama *What Dreams May Come* to the big screen (see *AC* Nov. '98). Mixing live action with a myriad of CGI and 3-D effects, *Quantum Project* follows in the samepreternatural vein: Stephen Dorff stars as a physicist who encounters a number of coincidental occurrences that defy astronomical odds. Oscar-winning art director Eugenio Zanetti (*Restoration*) made his directorial debut on the project, and Robert Primes, ASC, handled the photographic reins.

"We shot 480-line progressive scan [480p], 60 frames per second, with Panasonic [DVCPro 50] cameras that were quite good," notes Primes about the 15-day shoot. "If we had rendered all of our effects at 60fps, it would have cost us twice as much rendering time and memory and would have really increased the budget. We got the Panasonic universal format converter, and we took 60p and converted to 30p. Because of that, we could use standard Digibeta NTSC recorders, but there were no interlace artifacts because the odd line frame and even line frame were identical.

"We lit it like it was a large effects picture," he continues. "We have tons of effects and greenscreen, miniatures, Steadicam, Technocrane, multiple-camera car crashes, slow motion — it was like an ambitious, big-budget feature film. All of that, I think, was unprecedented for the schedule and budget we had.

"We even lit a big three-car collision inside the Second Street Tunnel. When [the physicist] gets in the car accident, he's in a red Volkswagen Bug; it hits another [Bug] and gets hit by a third one — all red. The film was so imaginative and wild. It was an absolutely amazing three weeks." ■





Death or Glory

Director Ridley Scott and cinematographer John Mathieson forge an epic vision of ancient Rome with *Gladiator.*

by Douglas Bankston

Photography by Jaap Buitendijk

According to legend, Romulus and Remus, the twin sons of the war god Mars, laid the foundation of Rome in the Seven Hills near the Tiber River. True to mythological form, Romulus built his own city wall, killed his jealous brother and assumed dominion over the settlement. Thus began the steady rise in power of the remaining brother's namesake city and the Roman Empire — an empire that lasted more than 1,200 years and ruled much of the known world while surviving maniacal rulers, barbarian invasions and internal upheaval.

The rich history of Rome has been the perfect proving ground for motion picture studios determined to create lavish spectacles. MGM visited this period several times with epics such as *Ben Hur* (two versions, in both 1926 and 1959), *Quo Vadis* (1951) and *Julius Caesar* (1953). Paramount Pictures produced *The Sign of the Cross* (1932), *Cleopatra* (1934), and, many years later, *The Fall of the Roman Empire* (with Rank in 1964). Rank also produced *Antony and Cleopatra* in 1973. In 1963, 20th Century Fox put its own version of the Egyptian queen's life on the big screen with *Cleopatra*, a decade after the religious-flavored feature *The Robe*. RKO Pictures laced up the sandals for *Last Days of Pompeii* in 1935 (which was remade in 1960 by an Italian production company and released by United Artists). Universal also traveled back in time with the 1960 slave-revolt drama *Spartacus*.

Now, after a drought of more than 25 years, Rome's brutality and hedonistic delights will be showcased in theaters once again as DreamWorks SKG (with Universal Pictures) takes an epic stab at the genre with the aptly named *Gladiator*. Following in the historic footsteps of previous studios and their large-scale productions, DreamWorks turned to a reliably masterful director, Ridley Scott, to convincingly re-create the grandeur of ancient Rome.

Gladiator begins as General Maximus (Russell Crowe) leads the Roman legions to victory over hordes of Germanic tribes. A favorite of Emperor Marcus Aurelius (Richard Harris), Maximus is asked by the dying ruler to succeed him in power. In a fit of jealous rage, the unbalanced heir to the throne, Commodus (Joaquin Phoenix), orders the execution of Maximus and his family. Maximus escapes, but he is caught, enslaved and forced into gladiator training — where he must survive a number of savage bouts while plotting his revenge. (Interestingly, the character of Commodus is based on a real historical figure who did lapse into insanity. The unstable emperor renamed Rome the Colony of Commodus — Colonia Commodiana — and actually fought in the gladiator arena himself, imagining that he was the god Hercules.)

For this colossal undertaking, Scott selected British cinematographer John Mathieson, who hadphotographed several projects for the director's production houses. Mathieson came up through the traditional camera ranks and worked as an assistant to director of photography Gabriel Beristáin for a number

Opposite: General Maximus (Russell Crowe) readies his sword for a melee with German barbarians. This page, top: Maximus the conqueror stands amid the ravaged battlefield. Cinematographer John Mathieson photographed the battle sequence using uncorrected Kodak Vision 200T 5274, lending the scenes a cold, bluish look that was toned down during color timing. Bottom: In the emperor's tent, a luxurious haven from the harsh front line, a brooding Commodus (Joaquin Phoenix) conceives a strategy to eliminate Maximus, who threatens his ascension to the throne.

Photos courtesy of Dreamworks LLC & Universal Pictures.

Death or Glory

Right: Roman cavalry charge through the forest as fiery pots of pitch launched by catapults ignite the earth. Below: Roman archers prepare to fire flaming arrows into the kerosene-saturated battlefield. As many as 2,000 extras were used for the violent clash, which was further expanded by crafty plate work and compositing at Mill Film London (overseen by senior visual effects supervisor John Nelson).

of years before the latter relocated to the United States. Mathieson first garnered notice as a cinematographer with a Mardi Gras-seasoned music video for the song "Peekaboo" by Siouxsie and the Banshees. In 1994, he photographed the video *3 Chains o' Gold* for the artist then known as Prince, the French verité films *Pigalle*, and *Remembrance of Things Fast: True Stories Visual Lies* (directed by John Maybury, with whom he paired again on the experimental Francis Bacon biopic *Love Is the Devil*; see *AC* Sept. '98). For his 1995 French film *Bye Bye*, he was awarded France's Legion D'Or and given chevalier status. He has continued to shoot commercials and music videos, including the BMW X5 commercials and No Doubt's "Ex-Girlfriend" video. He also shot two episodes of the 1997 television series *The Hunger*, which was produced by Ridley and Tony Scott and starred David Bowie.

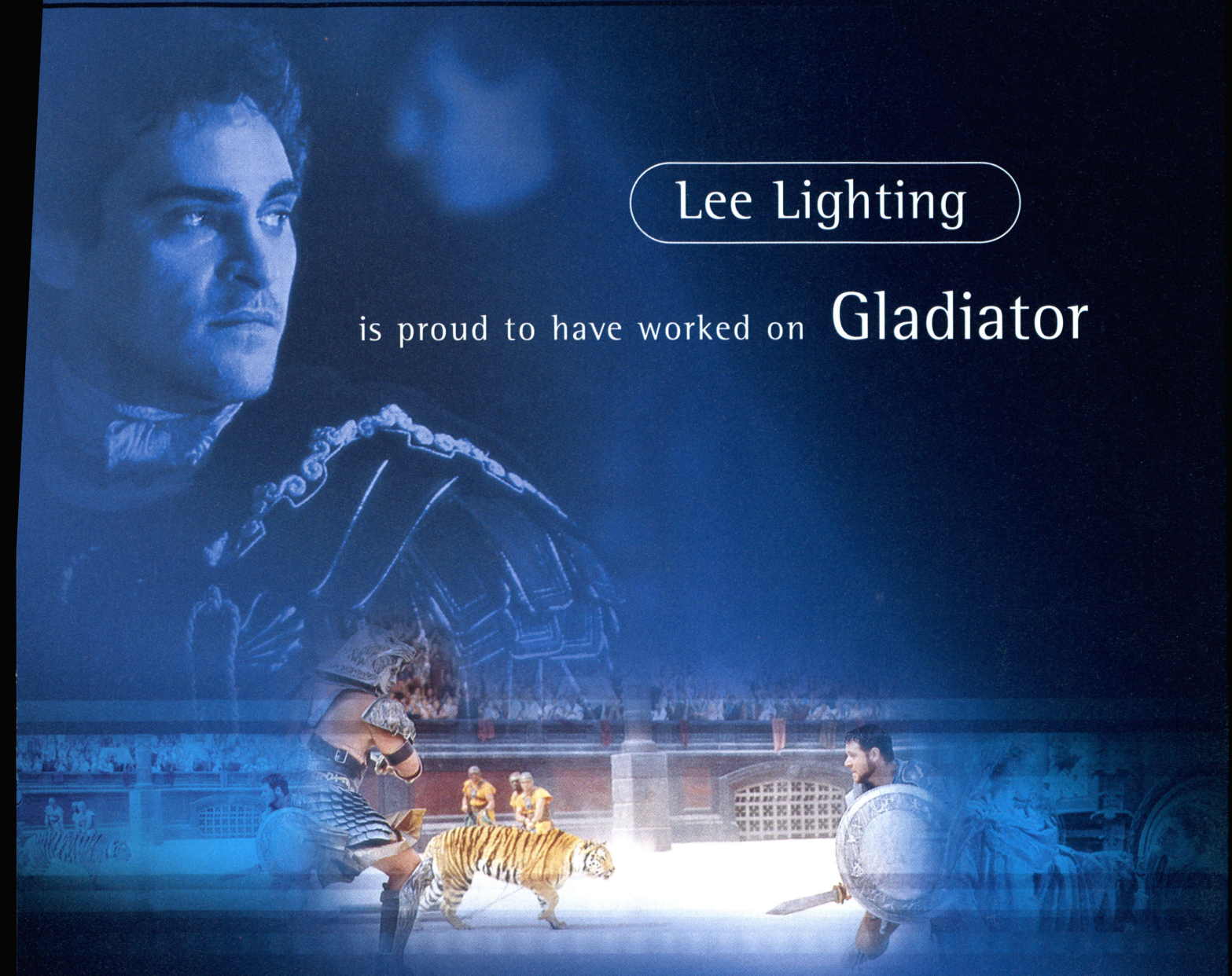
Ironically, it was Mathieson's work with Scott's son, Jake, on the 18th-century period film *Plunkett and Macleane* (1999) that caught the keen eye of the elder director. Mathieson and the senior Scott then tried out their synergy on a starkly lit, 1930s-type commercial for the British telephone company Orange. Scott had rewritten the spot for the advertising agency to fit specific locations. "Ridley's very particular about the way things are, so I had to find my way with him," says Mathieson.

"The standard of craftsmanship that he maintains is very high."

The duo carried that standard into *Gladiator,* which was shot entirely on location for 18 weeks. The film opens with the massive battle campaign that the Romans wage against the Germans. Though the filmmakers originally planned to stage this sequence in Slovakia, the production had a stroke of good luck when the British Forestry Commission allocated them an area of forest near Farnham, in southern England; shooting in the forest, which was scheduled for replantation, spared the company a massive move.

Mathieson's approach to such a large-scale project was to keep the photography as simple as possible. Though Scott initially wanted to film in anamorphic, the Super 35 format was chosen because valuable setup time could be saved by using fewer lights. "Shooting in Super 35 made life so much easier," Mathieson remarks. "You don't want a camera kit the size of a room. Working in Super 35, you've got a zoom lens and the camera. You can just go."

The battlefield scenes were shot during the English winter, when daylight doesn't last very long. Out of necessity, Primo 11:1 and 3:1 zoom lenses were used the most, and multiple cameras were deployed to capture the thousands of extras in combat. "We used [Panavision] Platinums and GIIs and a bunch of Arri IIIs, and we used an Aaton [XTR] as well," Mathieson details. "For handheld shots, everyone would scramble for the Aaton because it was lightweight. The focus guys were suspicious of it because it's light and delicate, but the Aaton was very popular and reliable. That was the camera I used a lot, because I knew I could just walk off somewhere with a short zoom and get a shot. [Assistant director] Terry Needham's logistics were incredible. I would say, 'Terry, what the hell is going on?' And he'd



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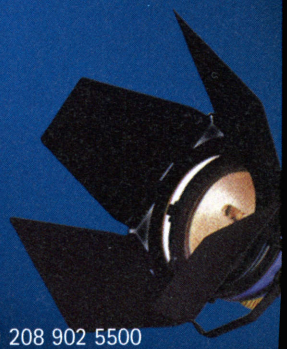

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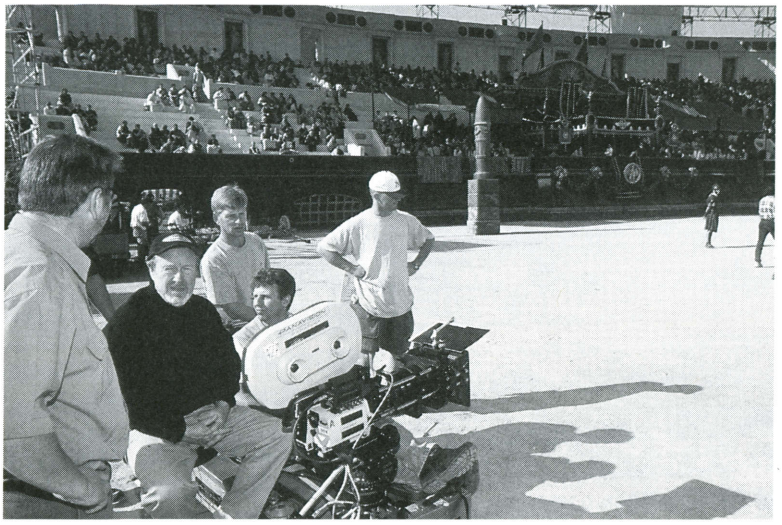


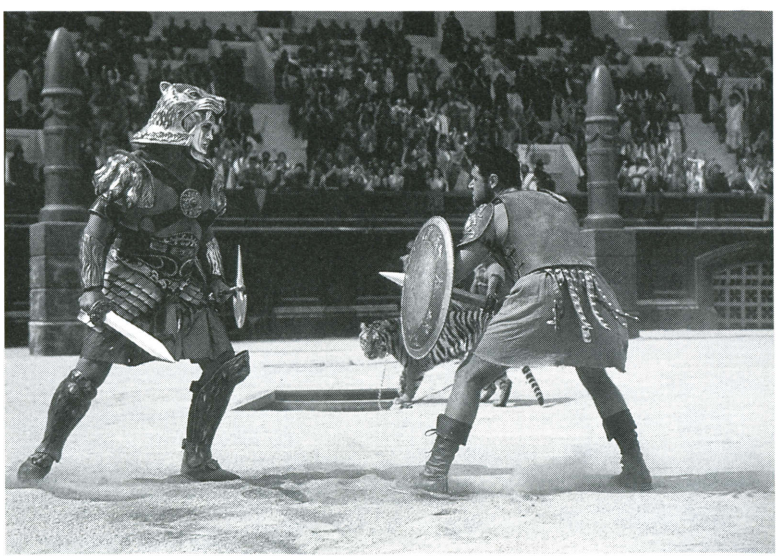
Right: Director Ridley Scott, who likes to operate the camera himself on many occasions, takes a break from photographing a gladiator bout at the Colosseum set in Malta. Below: Victory or death are the only options for Maximus as he duels a *hoplomachi* (fighter in armor). To enliven the bout, hungry tigers on chain leashes are slowly allowed to move closer for a potential human feast.

say, 'Well, you're over here. This is going to happen, so point the cameras that way.' It was a struggle and a bit of a rush to get through such a big schedule. I would just do what I thought was going to be good in a given situation."

Having a large arsenal of up to seven cameras at a time allowed Mathieson and Scott to operate periodically, along with A-camera operator Peter Taylor and Steadicam operator Klemens Becker. "Peter's very good at handheld work; he kind of floats along," Mathieson testifies. "Klemens's Steadicam work is very elegant and precise. In those [multi-camera] situations, I was thinking, 'Someone has got to be getting something good."

Throughout the production, the filmmakers steered more toward a variety of tracking shots (accomplished with dollies and a mobile Giraffe crane mounted with a HotHead II), as opposed to sweeping crane moves. Mathieson submits, "Ridley and I don't like a lot of high shots. The light flattens out. All of the operators just had to learn to get really strong frames — Ridley Scott-type frames!"

The cinematographer maintains that Scott was quite flexible when it came to getting what he wanted photographically. "We didn't wait for the light," he explains. "Look at the opening sequence. There's sun, then there's clouds, and then there's smoke. I said, 'Ridley, it's f***ing snowing!' He yelled, 'Cut! I don't care.' At least if you've got multiple cameras in that situation, you can get a lot of coverage under one condition."



Mathieson photographed the battle scenes at various frame rates and with a 45-degree shutter. This technique, employed to great effect for the battle scenes in *Saving Private Ryan,* helped to make the combatants appear more aggressive, and to reveal clear sword movement through the air. "We got into trouble one day with the light towards the end of the battle, so we couldn't shoot at 45 degrees," he reveals. "Instead, we shot everything at 8 frames, which gives you two more stops, and printed that back to 6 frames. Then we stretched that back out [to 24 fps]. Of course, each exposure is really long. You've got these people swinging swords, and it's no longer frenetic with all of these sharp edges — you get a far more brushy stroke. The sword becomes almost like a fan as it gets pulled through the air. It worked very well for the scenes in question, which happen as the battle is winding down. The approach wasn't designed ahead of time, but Ridley is flexible like that."

The film's lengthy battle campaign was shot using uncorrected Kodak Vision 200T 5274, and the only filtration consisted of polarizers, which helped to keep things simple while yielding a cold winter look. Much of the blue hue of the tungsten film was taken out during timing sessions at Technicolor in London and Los Angeles. "In London, we got some very nice results from [timer] Keith Bryant, and Dale Grahn did the print [in Los Angeles]," Mathieson says. "We used 5274 and [EXR 50D] 5245, which I often pushed by one stop. The idea was to keep it simple. I used 5274 outside for [scenes set in] Germany, all of the night exteriors and some of

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WAM!NET EASES TRANSATLANTIC PRODUCTION

In telling the tale of a heroic general who is ousted by an evil emperor and returns to glory as a slave forced to engage in deadly hand-to-hand combat, *Gladiator* "rebuilds" ancient Rome, fills the Colosseum with toga-clad throngs, and features battles fought with the ancient era's low-tech weaponry.

In short, it's not your typical digital-effects movie. But this doesn't mean that *Gladiator* doesn't incorporate digital effects of the "seamless" variety — 100 of them, in fact. Rather than calling attention to themselves, the effects help viewers suspend their disbelief about entering a historical time and place. The Mill and its sister company, Mill Film — which, together, comprise one of London's leading digital film- and commercial-effects facilities — created digital matte paintings of Rome, duplicated human figures for crowd scenes, and helped create battle sequences that were too dangerous to shoot practically (including scenes featuring firebombs flung from catapults).

In addition to reinventing the "sword-and-sandal" genre, *Gladiator* is also notable for utilizing Wam!Net's compressed video-delivery service to transfer visual-effects files back and forth from The Mill in London to its Los Angeles sister facility and, ultimately, the film's Los Angeles-based edit bay. The digital delivery system enabled effects artists in London to "overnight" temp comps and shots for a morning arrival at the Los Angeles edit suite, cutting at least one or two days off the standard overnight air service — days that would have added up substantially over the course of the production.

The Mill and Mill Film already had experience with digital file transfers as participants in SoHoNet, a digital network enabling the London neighborhood's advertising agencies, production companies and postproduction/visual-effects facilities to transfer files easily. Although the idea of a digital delivery system isn't new, the expense and logistics of sending large files "across the pond" have limited the successful adoption of transcontinental versions. "File sizes, cost and quality standards have been prohibitive when it comes to transatlantic transactions," remarks Roy Trosh, longtime technical director at The Mill and Mill Film. "Wam!Net provides one almighty step further for us."

Trosh was intrigued by the potential of the Minnesota-based Wam!Net's compressed video-delivery service, particularly because the Mill and Mill Film are working on an increasing number of U.S. commercials and feature films. The prospect of sending shots (which often involve very large files) over the ocean quickly and cost-effectively was very appealing. After discussions, The Mill became the sole European member of a 10-member development group that included U.S. film studios, postproduction houses and ad agencies.

When director Scott brought *Gladiator*'s effects work to the Mill (where he's a part owner), Trosh thought it would be the perfect project with which to debut Wam!Net's digital transfer service. Mill Film visual effects film editor Nick Atkinson notes that the facility was already familiar with the use of digital delivery systems for a feature film; on *Babe 2: Pig in the City*, Mill Film had used ISDN lines to transfer files to production offices in Australia and Los Angeles. "We did rough video temps using Avid," recounts Atkinson. "It was enough information for them to take the images apart and send them back to us, but it took all night to send those files using the conventional means of transfer. It was a full-time job for someone who had to sit there all night."

Wam!Net promised to speed up the transfer, as well as improve the quality by enabling very large files to be transferred within a reasonable time frame. According to Atkinson, Wam!Net delivered on all accounts throughout the production of *Gladiator*. "We used it on a daily basis," says Atkinson, who adds that the production also transmitted JPEG still images of production sketches and digital matte paintings. "We usually set things up in the evening, bundled up a package and sent it so that the L.A. office would have it in the morning. The editor there would compile amendments and transmit them back, so we'd have fresh mail every morning."

Once production was in full swing, the production office in Los Angeles would request specific shots. The Mill Film visual-effects artist would finish the temporary composite and put it on the facility's main server as an OMF file. The editor would then pull the OMF file from the main server, load it into the Avid to check it, and turn it into an Avid clip or sequence on the desktop. "Once we knew it was okay, we'd open up Wam!Net," says Atkinson. "Using the graphical user interface, it was a simple drag-and-drop."

Atkinson notes that from the beginning, Mill Film's artists wanted to work in the highest resolution possible. That meant creating and compositing the shots on a Discreet Flame station. "The files were quite big coming off the Flame, [and they had] lots of information," Atkinson relates. "One that was 48 megabytes took seven minutes to transmit. Before that, we had one that was 86 megabytes that took 20 minutes to transmit. Even if there was a technical delay, they got it a hell of a lot faster than they did on *Babe 2*."

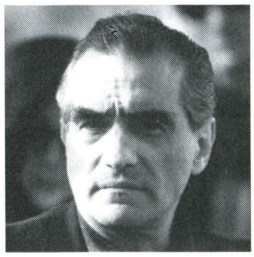
— Debra Kaufman

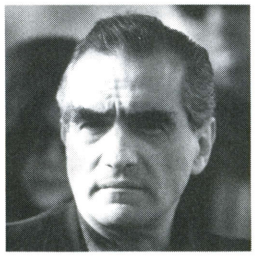
Mathieson double-checks his low-angled position for a shot of the muddy German engagement, filmed during the heart of an English winter.

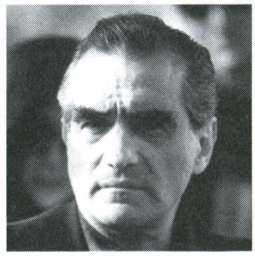
the interiors. I would push the 5245 for day interiors or exteriors if it got difficult."

Adjacent to the charred and muddy battleground was the Roman encampment set, which features the emperor's large tent as its centerpiece. Mathieson recalls, "In the eave of the tent, we stuck some batten bars, simple light bulbs across the top, which gave off a very low glow. That created an ambience so the scenes wouldn't dive into deep black. It was very difficult to rig into. We lit from the floor, basically. We used 5Ks and 10Ks through some heavily diffused Chimeras, and we put Cosmetic Hi-Light and straw [gels] in front of them to give the scenes a candlelit look."

Two cameras were used whenever possible. Since the motivated sources were oil lamps on stands or tables, the lighting units were placed no higher than eye level. In order to enhance the soft, flame-lit glow, opal and shower-curtain diffusion were added in addition to the gels. A bit of bounce and soft Zap lights were also used, as well as small, hidden Kino Flos to pick up pieces of shiny armor.







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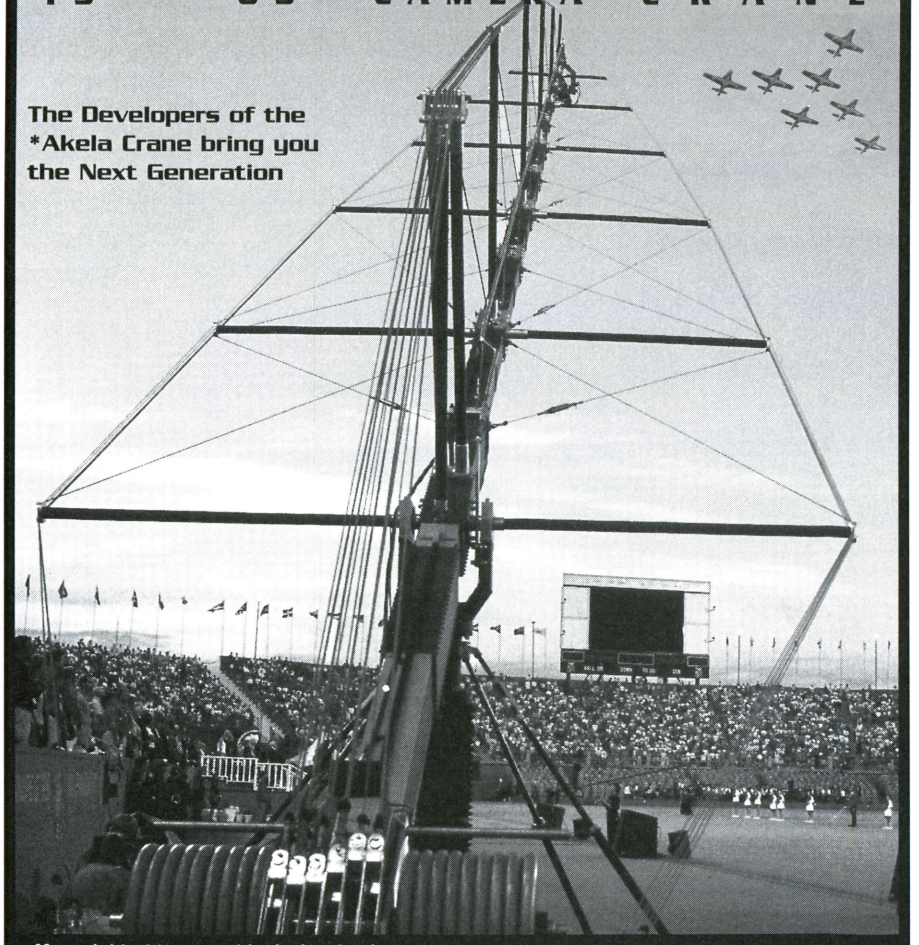

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Death or Glory

Those fixtures were gelled with the same colors, but if the Kinos were burning too cold, ⅛ or ¼ CTO was added.

In the encampment's courtyard, Mathieson went for a less inviting look by replacing his straw gels with L.C.T. Yellow (a light greenish-yellow color), while keeping the Cosmetic Hi-Lights on the 5Ks and 10Ks. "It would have been nice to use smaller [lighting] units," he concedes. "But since we didn't use very fast stocks — and because we wanted a heavy negative while shooting in Super 35 — we had to stick with those fixtures and even 20Ks in other scenes. We used a Wendy outside in the courtyard to give us a backlight, and we warmed it up with ½ CTO. I didn't want a cold backlight. I didn't want the 'warm candles and a moon' sort of thing."

When Maximus is enslaved, he is sold to the School of Proxima, run by the notorious Proximo (portrayed by Oliver Reed, who passed away during production). The company began filming in two Casbahs outside Ouarzazate, Morocco, where production designer Arthur Max built a small, mud-brick gladiator arena. As the gladiator trainees march toward the arena, they travel through a surreal dye market in an alleyway, where raw wool is dyed in bright colors and hung in giant loops to dry. Mathieson recounts, "I took large frames that [gaffer] Roger Lowne made up, and we stretched flame red, deep red and primary red in great bits of 12' by 4' frames, then laid them across the alleyway. We didn't have to light it — we just let the sun smash through these frames, creating this incredibly intense color. I did, however, have to let some [straight] daylight cut through."

In Malta, the design team battled terrible winter weather to erect the palace district of Rome, using an old British military fort as a backdrop. As the production design team was finishing the sets, the

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Gordon Willis, cinematographer.
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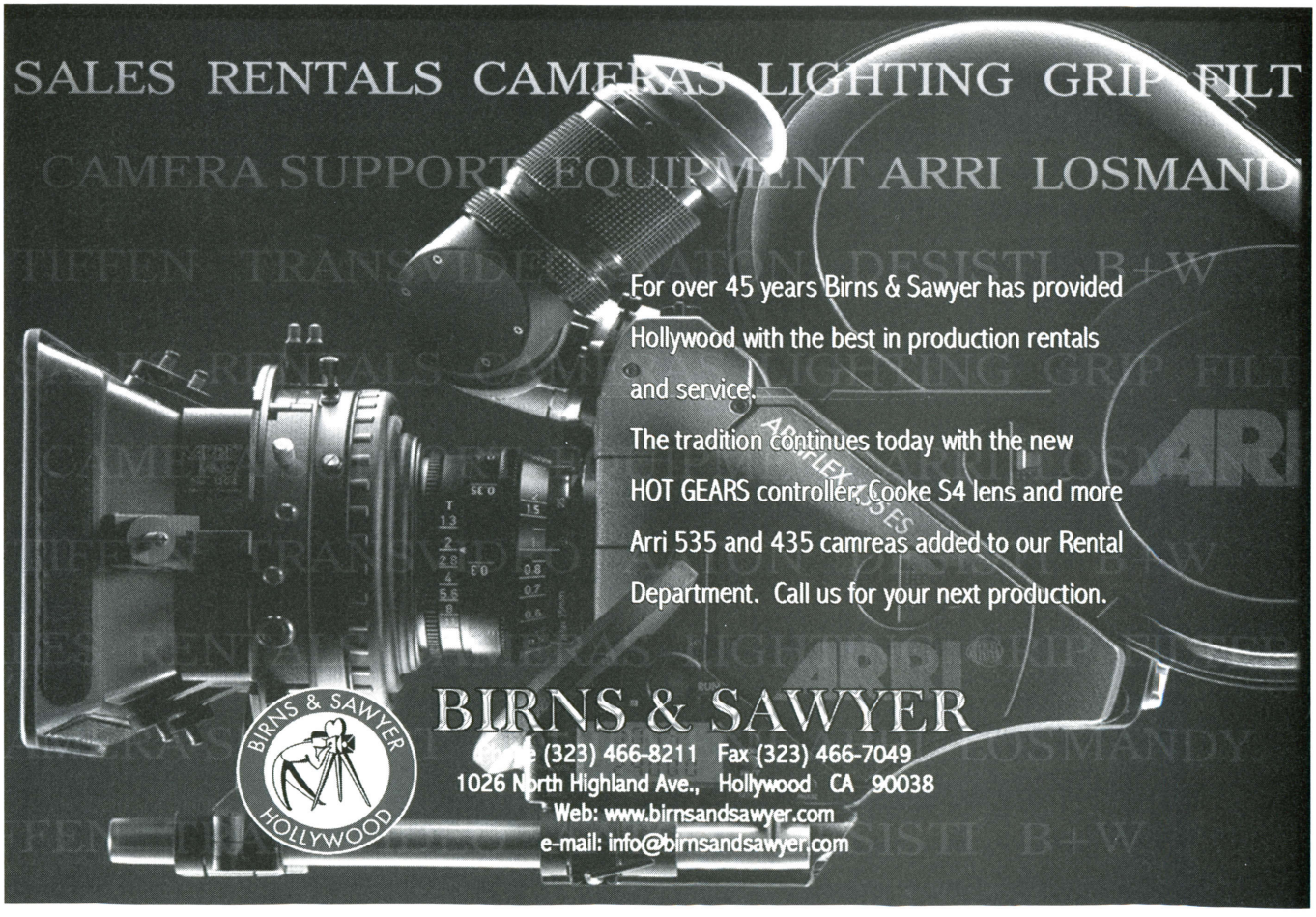
Death or Glory

Maximus and Juba (Djimon Hounsou) are marched through a vibrantly colored dye market, where hanging wool drips red dye onto the trainees, portending the carnage that is soon to come.

camera crew was moving in right on their heels. "We left the hot deserts of Morocco for the wet spring of Malta, and we went straight into nights with no pre-light," Mathieson says. "We just had to hope it was right and that it would work. It would have been nice to have discussed that with Ridley, but he kind of liked it the way it was. All of the Scotts love a bit of chaos, I think."

Further complicating matters was the fact that the film's script was undergoing a series of rewrites, which didn't allow for much pre-rigging. "You never knew what was going to happen or who was going to end up doing what," the cinematographer laments. "That type of thing drives the crew crazy, especially in terms of lighting. Roger and Peter were good-humored about it, though. They would just say, 'Okay, we're going to do that again.' That was the beast. That was *Gladiator*."

In their approach to the victorious army's entrance into Rome, the filmmakers took a cue from Leni Riefenstahl's notorious homage to Adolf Hitler, *Triumph of the Will*, striving to make the sequence appear starkly desaturated like newsreel footage. Expanding on the fascist motif while discarding the desaturation, Mathieson referenced black-and-white photographs of Nazi chief architect Albert Speer's foreboding designs to make the emperor's palace, composed of dark marble and hanging chiffon silks, look similar to the severe, contrasty Reichstag headquarters. "We didn't use any gels on the lamps," Mathieson says. "The palace isn't cold, but it doesn't have that warmth about it. For both day and night scenes, we used a lot of Leelium balloons — 5Ks that you could switch to 4K HMI sources — because we were seeing the ceiling. You can just pull them in and park them over people's heads, and they give you a nice ambience. There was always a lamp burning on a table, so I would try to get a little something in on the actors' faces — particularly that of Connie Nielson [who portrays Lucilla] — with more Chimeras and some bouncing. I would take some of the toplight off her with a flag. When we were doing a close-up, we would also bring the



balloon down so that it wouldn't be so toppy."

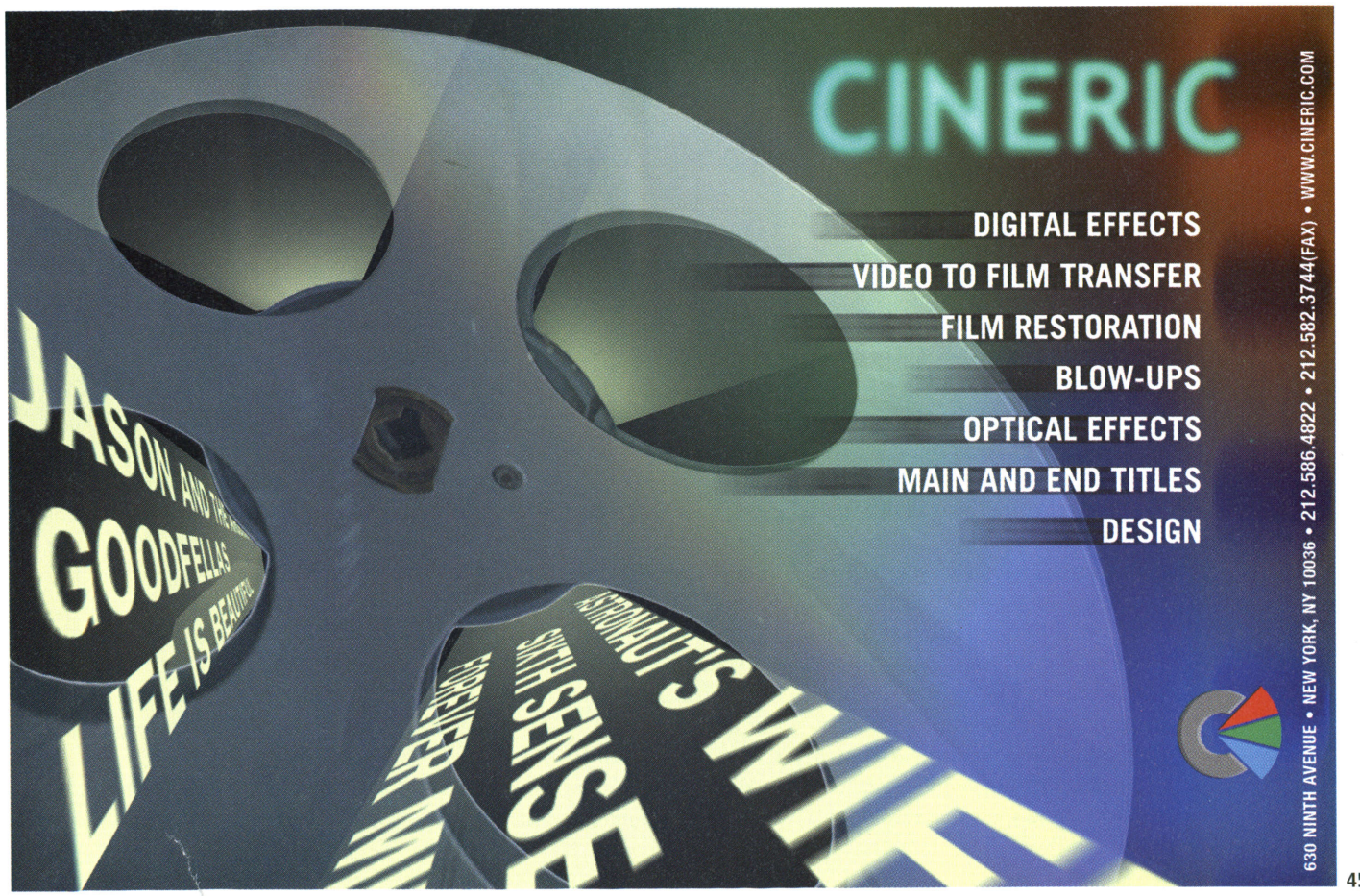
The showpiece of the palatial district is the great Roman Colosseum, where senators and common folk crowd the stands to witness gladiators wielding a variety of weapons against each other — and also against ferocious tigers. A lower portion of the Colosseum was constructed in the form of a "J," while the rest of the arena and the upper deck was added using computer-generated imagery (CGI) at Mill Film London.

Mathieson and Scott wanted a theatrical balance of light and shadow to play on the Colosseum crowd. Shadow was applied by computer on some test shots, but the results were unsatisfactory. After some investigation, Mathieson approached the architectural engineers Buro Happold — who constructed the Millennium Dome in England — and engineers Peter Heppel and Paul Romain to design a Roman velarium, or awning, thus allowing the practical creation of an accurate shadow. At Shepperton Studios, a small model of the Colosseum set was built, and a 1K lighting unit was placed as far away as possible to simulate the sun. Various shapes were placed on top of the model to determine what would cast the best shadow. This exercise was taken one step further when EuroHappold broke out an old heliostat that displayed on the model how those shadows would track during the day.

"It was the most expensive shadow ever, I think," says Mathieson, who made frequent use of Sun Path software to predict the sun's positioning. "The velarium had about 17 of these enormous, trapezoidal shapes, which ran on cables, coming down it. If it hadn't had those, it would have looked very flat. There were ribbons of light coming through these trapezoidal canvasses, and when we threw smoke and dust up, these shafts came down as very dramatic, long knives of light. If the shadow became too much, the sails were pulled back to allow more sunlight. Ridley's very aware of where the light will be good, and he'll support you."

In post, the practical velarium was digitally removed, and the rest of the Colosseum was completed in CGI, including a new, moveable velarium manned by digital, motion-captured slaves.

Though the project was much larger in scale than he is used to, Mathieson took it in stride. "*Gladiator* was a big step up for me," he admits, "but I've been in those situations before. Having a wonderful crew was a great plus. They worked bloody hard and got things done quickly." ■

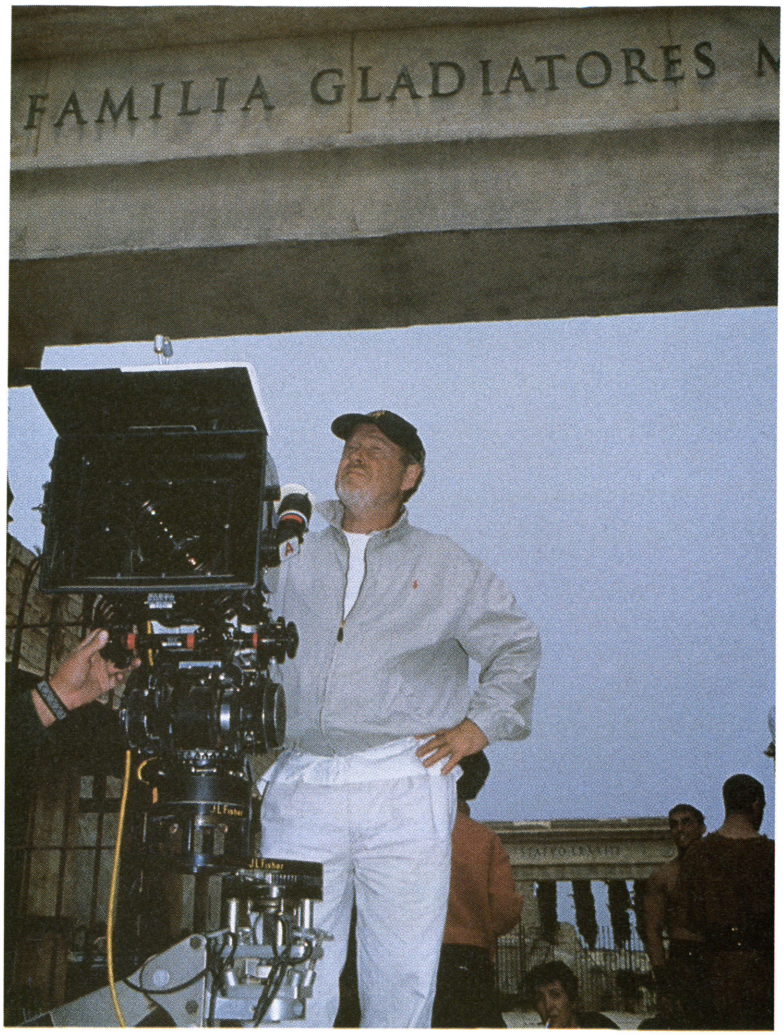


Veni, Vidi, Vici

Director Ridley Scott conquers logistical challenges to create a sweeping vision of ancient Rome in *Gladiator.*

Interview by Douglas Bankston

Photography by Jaap Buitendijk



Director Ridley Scott doesn't simply direct feature films; he creates cinematic worlds. All of these worlds — which have included the distant future in *Alien* (1979), the Napoleonic era in *The Duellists* (1977) and ancient Rome in the newly released *Gladiator* — bear Scott's indelible aesthetic imprint and benefit from his keen photographic instincts. They also demonstrate Scott's unquenchable craving for atmospheric smoke.

Another trait that all of Scott's films share is an acute attention to set detail. After establishing deep roots in television and commercial production design during the '60s, Scott blossomed into a truly inventive visualist. Later, he became increasingly involved in cinematography, operating the camera himself while directing highly influential 30- and 60-second spots that revolutionized Britain's television advertising industry.

In addition to having a brother and three sons who also work as directors, Scott is able to harvest cinematographic talent through his production companies: Black Dog for music videos, RSA for commercials, and Scott Free for feature films. Many of Scott's music-video and commercial collaborators eventually photographed features for him. Frank Tidy, BSC, lit Scott's first feature, *The Duellists,* and Derek Vanlint illuminated *Alien*. (Scott storyboarded and operated principal camera, including handheld shots, on the dark and claustrophobic science-fiction thriller.) Scott has also worked with Jordan Cronenweth, ASC (*Blade Runner*, see *AC* July '82 or March '99); Alex Thomson, BSC (*Legend*); Steven Poster, ASC (*Someone to Watch Over Me*); Jan DeBont, ASC (*Black Rain*, see *AC* Sept. '89); Adrian Biddle, BSC (*Thelma & Louise* and *1492: Conquest of Paradise*; see *AC* Oct. '92); and Hugh Johnson (*White Squall*, see *AC* Feb. '96, and *G.I. Jane*).

Scott took some time between mixing sessions at Todd-AO Studios to light up a cigar and invite *American Cinematographer* to peer into the directorial stratagems he brought to bear on *Gladiator.*

American Cinematographer: **How did the *Gladiator* project come together?**

Scott: I was approached by Walter Parkes and DreamWorks.

Photos courtesy of Dreamworks LLC & Universal Pictures.

Walter, one of the great story pitchers, preceded his remarks by presenting a reproduction of a 19th-century painting by the artist [Jean-Léon] Gérôme (see page 56). It showed a Roman arena from the level of the sand, where a gladiator holding a weapon was standing over his vanquished foe, looking up at an emperor who was staring down at them and preparing to give the thumbs-down gesture. Walter really had me the second he showed me the painting. I honestly hadn't thought about that world before, and it's a tricky one to address because of the 'toga/gladiator syndrome' [in film history]. I just thought it was a a good pitch, a great story, and a great world to explore.

Was it the time period or the story that appealed to you most?

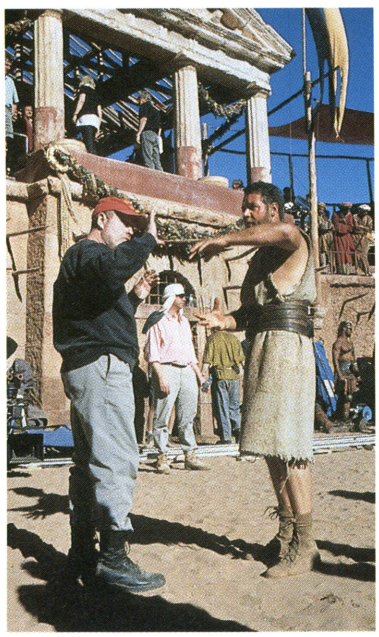
Scott: After many years and millions of feet of film, including lots of television commercials, I've discovered that I have an artistic side, and that I really like creating worlds. That's one of the things I bring to bear when I do a movie. Something clicked in the back of my head, and I thought, 'Damn it, I hadn't thought of doing this one before. This is really interesting.' That's what really got me going. In this instance, the world came first, then the story. Usually, it's story and character first, and then the world finally rolls in.

What led you to choose John Mathieson as the project's cinematographer?

Scott: One of my sons, Jake Scott, had already directed his first feature film, the 17th-century piece *Plunkett and Macleane* [a 1999 release that was shot by Mathieson]. Jake happened to be in London editing it at the time, and he would show me cuts of his film. I thought it looked absolutely wonderful on every count. John Mathieson and Jake had worked together a lot doing rock videos and commercials, and John had already done several movies. So I said to Jake, 'Do you mind if I ask John to do my next movie?' That's a reversal, isn't it? [Laughs.]

What skills did Mathieson bring to the table?

Scott: Not all cameramen are artists, but John is. He's [also] extremely knowledgeable technically, partly because of his background in rock videos and commercials, where he could experiment. If anything, people making rock videos *expect* you to experiment; otherwise, the band isn't interested. Each of these three- to four-minute pieces are essays of creativity [set] to music. That's why I have Black Dog — we see it as a great beginning for young



filmmakers. John had been through a lot of that, and therefore is very inventive.

For instance, I didn't want to just shoot the battle sequences for *Gladiator* in a traditional manner, so we adopted various styles, which John and I talked about, for the different stages. We used various techniques in terms of cameras and camera speeds. When you've got 2,000 soldiers in the field at any one time, and you're planning to experiment, you'd better make sure you're right, because you can't go back and reshoot it. I like the fact that John had been down those [experimental] routes, whereas others, I think, might rather play it safe. John would go for it, and mostly, thank God, he was right.

When it comes to cinematography, you've been known to be very hands-on. Was that also true on this film?

Scott: I'm a reasonably practiced operator, so I like to get in there and line up the shots. I know that certain cameramen don't like to work with me or my brother, Tony, because we both came up [through the industry] the same way — primarily from the visual side into long-form work — and we both like to be on the camera. I always think the best job on the floor is the operator's job, because that's where you see the bells going off. I came out of TV commercials, which I feel have very much to do with a director and his eye. On those types of shoots, the director ought to be looking through the camera, and I did a lot of that.

Now that video-assist has become so sophisticated, of course, I don't have to look past the operator's left ear to see what I'm getting through the viewfinder; I can just talk to them very accurately using the monitor. It's not simple; it's hell, actually, but you can move pretty fast if you know what you want, and I always know what I want. I think for the most part, cameramen enjoy the experience with me, even though they sometimes go into it with great trepidation. I believe that the process should be fun and inventive, and I can be influenced by anything or anyone.

Speaking of influences, what did you use as references for *Gladiator*? A film like this could draw comparisons to classics such as *Spartacus*, *Ben Hur*, *The Fall of the Roman Empire* or *Quo Vadis*.

Scott: I probably drew from the same references those filmmakers did — paintings and drawings. The

Opposite: Standing tall and wielding the mighty camera, director Ridley Scott surveys an epic scene. This page: Scott blocks out gladiatorial action in the arena set (built outside Ouarzazate, Morocco) with actor Russell Crowe, who plays Maximus.

Veni, Vidi, Vici

Above: General Maximus rides into battle. Right: Reduced to a mere gladiator, Maximus engages in a dusty hand-to-hand duel.

greatest photographers were the painters who represented those historic times, particularly [artists] from the 19th century. [Sir Lawrence] Alma-Tedema, who was painting Greek, Roman and Egyptian environments with great perception and accuracy, was a big reference; he created beautiful representations of an ideal world. It then fell to me to say, 'Rome was the Golden City, but it was probably dirty and grim in parts, despite the beautiful architecture.' For me, the process mainly involved looking at the illustrations and paintings, and then reinterpreting them based on what I wanted.

Did you make a conscious effort to avoid similarities to previous films about ancient Rome?

Scott: Yeah, but *Spartacus* is a good movie. *Ben Hur*'s got some great stuff in it, and so did *The Fall of the Roman Empire*. There's a lot of accuracy in those representations [of the era]. The question is, when you bring a different eye to the time period and [shoot in a] different decade, will the picture look different than previous films? Absolutely. I think through the production design, we got an interesting view of Roman life that I'm very happy with.

How extensive were your interactions with production designer Arthur Max during preproduction?

Scott: When I'm in prep on a period film, the people I probably do the most work with are those in the art department — partly because I come from that discipline myself. I love the process. I always make sure I've got the best storyboard artist I can get my hands on, as well as the best production designer. This is my second film with Arthur; we did *G.I. Jane* together, and I've also done commercials with him. Arthur is an architect, so he's very conscious of architectural details. Naturally, there were endless discussions.

The biggest thing Arthur was doing for *Gladiator* was [the Colosseum set] in Malta. I had once used the water tank in Malta [for *White Squall*], and I remembered one lunchtime when I was wandering around the studio. I walked up to a ruined barracks which had been used by the British Army [during its war] against Napoleon in 1803. The whole military infrastructure was built in limestone. There is a prevailing wind in Malta that blows sand all the time, and this limestone is soft, so it has aged beyond its 200 years. I thought if we could put the Colosseum in the middle of one of the parade grounds, we could dovetail our sets into all of the existing architecture. Arthur and I got the original 1803 plans [for the site] from the city. We made a scale model of the actual site, which was enormous, and we started to play chess in that with model pieces to see how our additions would fit within the structure. By doing that, I think we saved ourselves a lot of money.

You shot *Gladiator* in Super 35 with spherical lenses. How did you exploit that format to enhance the film's 'epic' look?

Scott: If I think about the very epic directors, the one that would spring to mind first would be David

Lean and *Lawrence of Arabia*. We couldn't really [shoot in the standard 1.85:1 aspect ratio] because we were attempting to tell an epic story. I don't know why, but psychologically, an epic tends to feel as if it ought to be widescreen with landscapes as opposed to portrait photography. That probably means anamorphic, which can be hard to do within time constraints. We knew that if we shot with spherical lenses, it might save on lights, because you've got a minimum difference of two and sometimes three stops. Lights mean time, and time means money. Therefore,

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Veni, Vidi, Vici

we ultimately elected to go spherical, which would give me what I needed and give John [Mathieson] what he needed, which was speed in working.

Of course, we still went for what I call the 'epic quality' — it's that combination of how you see the landscape and which lenses you put on the camera. I don't use a lot of wide-angle lenses; my widest lens tends to be around 75mm. I'd rather move back and use a 75mm, because the image is more powerful. With a wider-angle lens, you see more, but it's less powerful. It's a funny effect. If I want a wide view of a scene, I'll move back, which is also quite good because the actor doesn't have a lump of glass stuck in his face. The camera and crew are further away from him, so in a sense, he's on his own.

Did the film's period dictate a particular photographic style?

Scott: If anything, I shot it in a rather modern way. A lot of the battle scenes, of course, were done with handheld cameras. We employed a lot of techniques we learned from videos to enhance the speed and violence of certain sequences. When you're dealing with a bunch of guys wearing muddy skirts and carrying swords and spears — and they're not on horseback and everything is flat — it requires a lot of energy to get the footage you need; you have to use a lot of cuts to keep the action moving forward. We worked out a proper strategic battle plan in order to illustrate the formidable might of the Roman military machine. The infantry were engaged in the front, and there were war machines like catapults and arrow launchers to the rear. The arrows were really thick and would impale whoever got in their way; if you got off a really lucky shot, you could nail four blokes together, like a kabob. The Romans would also catapult Greek oil, which is basically a kind of kerosene, in these large, earthenware pots. They would saturate the ground with black oil, then

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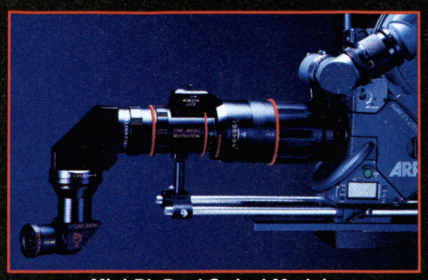

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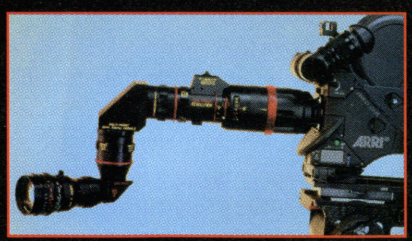

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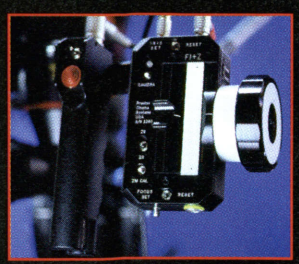

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Veni, Vidi, Vici

fire flaming arrows that would ignite the whole battlefield. The Romans were very clever strategists.

How difficult were the logistics of filming such large battle scenes?

Scott: Nothing's difficult if you've got a good team. It all has to do with planning and discussion, and finding ways to shoot things in a way you haven't seen before. People get tired of watching [the same kinds of] medieval battles, or any battle scenes that have run dry. I think Steven Spielberg did an incredible 12 minutes [in the opening scene of] *Saving Private Ryan;* that sequence felt absolutely real and documentary. He raised the stakes in terms of the film interpretation of what that experience might be like. So now *we* have to go and raise the level. [Laughs.]

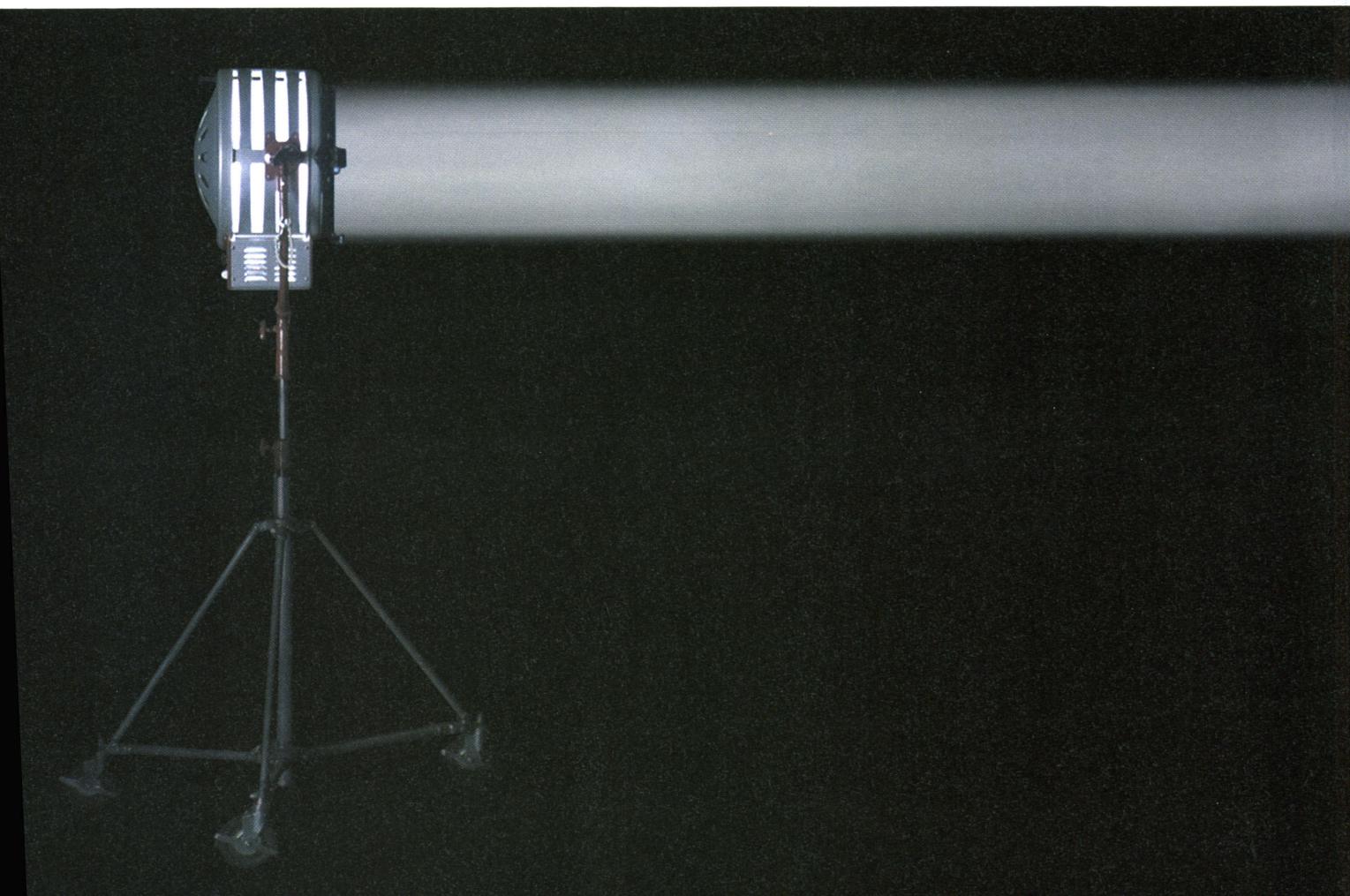
What I discovered is that with a big unit, or any unit, the less you move the better. I went to Brataslava [Slovakia] and looked at the military base there, but once I got into it, I thought, 'You know what? I'm staring at pine trees. I know there are pine trees around London.' We found that they were about to burn a forest [in Gatwick]. Half of the valley is all pine trees, and they'd already ripped up the middle. In this valley, I also found that I could put the Roman encampment just outside of the battle area, because the encampment logically wouldn't be on the spot. I never had to move the camera more than a quarter of a mile, and I was really happy about that.

How effects-heavy is this film?

Scott: The number of effects shots started off quite low, at around 40. We ultimately wound up with about 90 shots, but they're very complicated. It's a very neat jigsaw puzzle, particularly in terms of Rome itself. We planned with Arthur to go for a giant scale version of what he built, meaning that a column with a diameter of 8 feet would be up to 35 or 40 feet high. When I jump back to do a wide shot, I'll add another 80 feet to the column [via digital effects] — the entire upper part, along with the [rest of the] city. There were a million people in Rome, and because it was on seven hills, I wanted it to feel very dense, as if you could never see sky. I noticed that the other Roman period films were always done with two-story structures, and it all looked a bit provincial. I wanted this to feel like a New York or Wall Street of the time, particularly in the palace district and the Colosseum district.

Were the gladiator/tiger combat sequences a mixture of live action and CGI?

Scott: Tigers don't do what they're told to do. The biggest problem with a tiger is that half the time,



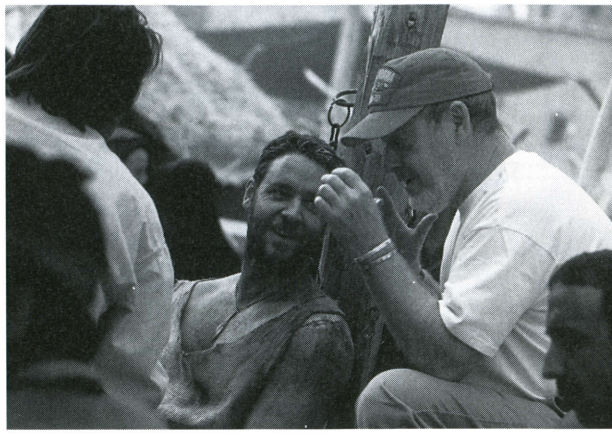
it lies on the ground purring or staring at you. We had six Bengal tigers that were about 10 feet long, weighed 600 pounds and could move as fast as a small cat once they decided to. But half the time you're poking at the animal, saying, 'Come on, do something.' That's the moment when you must watch out, because you've got a cat lying on the ground with its tail swishing, and you want to go over and pat it. When you watch [the trainer] hit the deck, he's feeding it with his right hand. In his left hand, he's got a little handle of a sword [with] no blade, and he has to 'stab' the tiger. CGI will drop in the glint of metal that goes into the fur and out the other side with blood on it. All of that action was cheated and helped by CGI.

You also used the Wam!Net service, which was used to digitally transmit footage of the film for production purposes and test screenings. How did that go?

Scott: We previewed only twice, I think once in Orange [California] and once in San Diego. We were on four channels on the Internet. Fortunately, the channels were really great. Needless to say, however, that could easily be negative [in terms of security]. I'm doing *Hannibal* right now, and somehow a guy at Yahoo! got hold of the script. There are only three *actors* who have seen the bloody script, so how he got it, God only knows. In fact, he's already written a critique of the script! Fortunately, he loved it and said [Jodie Foster] should have done it. [Laughs.]

Did Wam!Net speed up the production process?

Scott: The quality isn't that good yet, so it's a work in progress. But it's a great sketchbook to show where you are and how far you've developed. It also helped when I did the music in London, because Hans [Zimmer] likes to record at Air Studios, which is George Martin's place. I got to take a firsthand look every day as they fed me the developments over Wam!Net. Eventually, it won't matter where the various studios and effects houses are — you'll be able to work from anywhere. ■



Scott displays the proper way to grasp a sword's hilt when one is preparing to dispatch a vanquished foe.

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Rebuilding Ancient Rome

Production designer Arthur Max uses modern methods to resurrect a fabled realm in *Gladiator.*

by Ron Magid

Photography by Jaap Buitendijk and Kelvin Jones

It's a long journey from the urban decay of *Seven* to the splendor and decadence of ancient Rome, and production designer Arthur Max has taken the road less traveled to create the vast backdrops for Ridley Scott's eagerly awaited epic *Gladiator*. Unlike the Romans, Max and his design team had to construct Rome in just a few months. "Our motto was, 'Rome wasn't built in a day — it took more like 20 weeks!'" he says.

The designer, a veteran of theater and music videos, worked with Scott on dozens of commercials before designing David Fincher's *Seven* and Scott's *G.I. Jane*. "What I like about the job is the variety," Max says. "I started out studying architecture, but I didn't have the patience to build real buildings — it took too long! Instead, I gravitated toward set design for theater and, eventually, film, because it's concerned with different periods and styles. It's a much quicker process, and the things you build don't have to last forever!"

Max says his formal education in architecture was particularly useful in re-creating ancient Rome for *Gladiator*. "Every architecture student starts by drawing Ionic columns, and on this show we built them by the dozens! All modern architecture springs from the classical Greek and Roman traditions — the proportions, the use of light and space -- so it's a production designer's dream to re-create the architecture of a civilization that, for us, is like the Bible."

For inspiration, Scott and Max turned to 19th-century French and British Romantic painters, many of whom painted fanciful renditions of

Photos courtesy of Dreamworks LLC & Universal Pictures.

Rome in its heyday. "In fact, it was a painting by the French artist [Jean-Léon] Gérôme that inspired the entire movie," Max reveals. "Ridley and I decided we wouldn't do the classical, scholastic Rome, which could be reproduced by researching and staying totally faithful to the museum archives and the factual concepts of Roman scholars. We decided we were more impressed by the romantic vision of Rome [created] by painters such as [Sir Lawrence] Alma-Tedema, who was known as the 'Master of Marble.' We tried to emulate the accessories, pageantry, opulence and scale in his paintings."

Alma-Tedema's canvases tend to be narrow and very tall, emphasizing the glorious heights of column-lined streets that are filled to bursting with the gaily bedecked denizens of ancient Rome. "When you see the

ancient ruins and the collapsed roofs, you don't really sense the grandeur of it all," Max laments. "But when you see these paintings, in which the artist has completed the buildings and added the people, you sense the scale. Because the story we were telling has a lot of sinister intrigue and mental manipulation, with people living in fear of the emperor, we had to create an ambience that reflected that. I therefore began working in a style I called 'Black Tedema,' tweaking Alma-Tedema's work a little bit."

However, Scott and Max — along with art directors David Allday, John King and Benjamin Fernandez

— weren't influenced only by period paintings. "Ridley also touched on the weird and wonderful futuristic visions of *Metropolis* to evoke the busyness and density of Roman life," Max recalls. "We looked at films like *Spartacus* and *Ben Hur* several times, and Benji [Fernandez] had served as the set designer on *The Fall of the Roman Empire*. We were also deliberately mixing periods; for example, the Empire Period, when Napoleon was emperor, was based on ancient Rome, so we used a painting of Napoleon as an enthroned Roman emperor as a model for the emperor's throne in our film.

"Ridley also had this tremendous idea of studying Nazi propaganda films like *Triumph of the Will*, since they copied the Roman [aesthetic]. We copied *them* copying the Romans, which added an extra layer and another cultural interpretation. You know [the process]: it's fantastic, but it's not fantastic enough; it's big, but it's not big enough; it's rich, but it's not rich enough. How far can you take it before it looks wrong? You can almost never take it far enough. Ultimately, we tried to build Rome to be as big and rich as we could. After all, size matters!"

That said, a formidable task remained: how to re-create the grandeur of Rome without bankrupting the studio (which nearly happened the last time Hollywood revisited the Roman Empire, for 20th Century Fox's 1963 spectacle *Cleopatra*). "That was the challenge, and there was no margin for error," Max concedes. "Everything was on a timetable and a budget. The entire art department was originally cramped into the porta-cabins in the parking lot at Shepperton Studios [in London], then we eventually set up in the greenhouse building near Ridley's offices. The wardrobe, armory, prop and art departments were all *one*. Some armor was worn, some was set dressing, and we made a lot of it. Our set decorator, Crispan Sallis, had several draftspeople drawing different-shaped vases and amphoras and furniture, and he had rooms full of things that were made in his department because they just

Opposite: The massive Roman Colosseum built in Malta featured a retractable practical velarium to create shade for the audience. This Page, top: A Moroccan Casbah doubled as the School of Proxima for gladiator training. The training arena set was constructed on an adjacent playing field. Far left: Production designer Arthur Max. Below: Director Ridley Scott, at the camera, tracks battling *essedarii* (chariot men) in the Colosseum. The Colosseum was completed using CGI, including the removal of the practical velarium and the addition of an upper deck and a new velarium.

Rebuilding Ancient Rome

The painting that led to a Roman epic: *Pollice Verso* (*Thumbs Down*), rendered in 1872 by Jean-Léon Gérôme. (Oil on canvas, image courtesy of the Phoenix Art Museum Collection.)

didn't exist anymore. It was tricky to integrate all of those aspects so that everything fit together; everything was going on simultaneously in different places and would suddenly come together on the day."

Max dispatched his three art directors to each of the film's principal locations. "David [Allday] stayed in England, John [King] went off to Malta and Benji [Fernandez] went to Morocco to start surveying, and then I did the rounds," Max says. "It was like the old Hollywood system, when everything was all under one roof — except in this case, we were under *three* roofs. It was like making three movies simultaneously!"

For the film's first act, Max and Allday helped mount a battle between the Roman Legion, headed by General Maximus (Russell Crowe), and the barbaric German hordes in England. "We were lucky enough to get the British Forest Commission to give us a big tract of pine forest that they were scheduled to sell for cutting," Max explains. "We made it into a battlefield by chopping down some of the forest, and then set fire to it as part of the actual battle scenes."

Production then segued to the provincial Moroccan Roman Empire, the site of the film's second act (in which Maximus is reduced to a gladiator). Max worked alongside Fernandez to incorporate as much of present-day Morocco as possible into their re-created settings. Their crew built the slave markets, the gladiator school and the provincial arena in Ait Ben Haddou, using the ancient town as their backdrop — a brilliant design aesthetic that added tremendous scale at little additional expense. "It's this wonderful kind of Casbah, a big mountain made of mud-brick, full of houses standing on a hill," Max enthuses, "and we built our gladiator arena at the foot of this medieval fortress town. It was like a natural amphitheater surrounded by hills. When we did the gladiatorial scenes, we used the landscape as part of the stadium, with 3,000 extras standing around on rooftops and on hills overlooking the arena. It was very exotic, full of wild animals and caravans, and it really gave you a sense of the ancient world."

But the gods were not always with Max and his crew, who often overcame hardships of Biblical proportions to achieve their goals. "During prep, we had bad weather everywhere we went," Max relates. "In London, we had to contend with terrible rain and winds while we were trying to build tent cities — in the mud! And in Morocco, we had severe sandstorms." Still, nothing could prepare Max and King for the challenge they faced when attempting to re-create the imperial splendor of Rome on the island of Malta, where the weather and the isolated location magnified every difficulty. "We were in the middle of the Mediterranean during the worst winter of the decade," Max recalls. "Malta had some of the biggest hurricanes they'd seen in 20 years. We couldn't work on the sets on certain days because they were dangerous to be in; some of the sets [actually blew] down. We had to have most of the materials and equipment brought [to the island], which created huge problems."

Fortunately, not every bit of Rome had to be built. Director Scott remembered that he had previously used a tank at a Malta studio that was surrounded by ruined, limestone barracks built by the British for their campaign against Napoleon. Scott thought it would be the perfect backdrop for Max's Rome set. Using the original architectural plans of the fortress, Max's team made an enormous scale model of the actual site. Scott and Max then played chess with proposed set pieces to see how their additions would fit within the structure.

Once Scott was satisfied, Max's team created scale drawings of the fragments they planned to build, placed them in the context of the existing location, and passed them on to the visual-effects department, where they were scanned into computers. Because of the extremely tight production schedule, visual effects supervisor John Nelson and his team at The Mill London/USA were hard at work on computer-graphic extensions of Rome before the sets were even built. "It was a very elaborate, very interpretative collaboration, because Ridley's vision was of a romantic but gritty world with giant scale and a cosmopolitan atmosphere," Max states. "Trying to get that on paper accurately, so it could go into the computer and come out when they were ready to start compositing the cut film, was

quite a challenge."

Within the remnants of the British fortifications, Max and company raised ancient Rome, complete with an imperial palace and a fully restored Colosseum. "We went through virtually the same process that we had in Morocco," Max explains. "We used some existing buildings in the ruined fortress and rebuilt certain collapsed sections, which we also used for interiors. We then built partial, full-size, real sets of gigantic walls inside the fortress, which really helped put our sets within the context of the city!

"The sets were all built by English riggers, who are very skilled at scaffolding," he continues. "They used 100-foot-high tower cranes to erect the backbone of the sets, the structural skeleton. They had to work in all weather conditions, because we couldn't wait for them. We also took over several factories and built a lot of the sets in fragments indoors while it was raining and blowing. Later, we'd truck those semi-completed elements, like a big jigsaw puzzle, to the location and put them up in giant chunks. At times, there were 500 people working on-site and another couple hundred in the shop prefabricating. Despite the remoteness of the location and the adverse conditions, we triumphed."

Because of the mammoth scale in which they were working, Max opted to build only part of Rome's Colosseum in the middle of one of the fortress's parade grounds, dovetailing the set with the existing locale. Although they planned to enhance the Colosseum with computer graphics, Scott and Max were determined to shoot as many of the arena sequences as possible in-camera. Max details, "We couldn't afford to build the whole thing, which was 150 feet high. Instead, we built a huge, J-shaped section of the first tier, which was 75 feet tall, and some fragmentary elements like the opposite entry and the opposite box.

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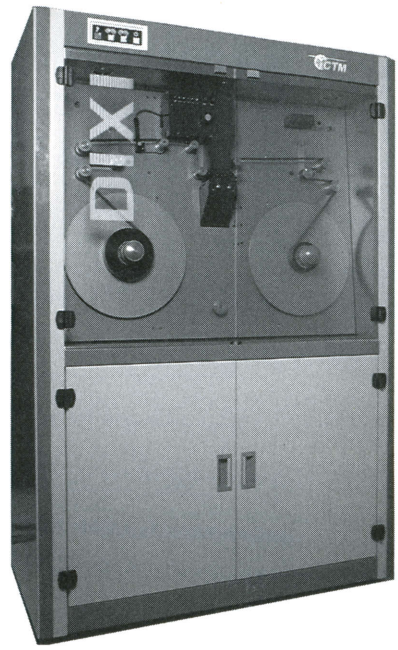

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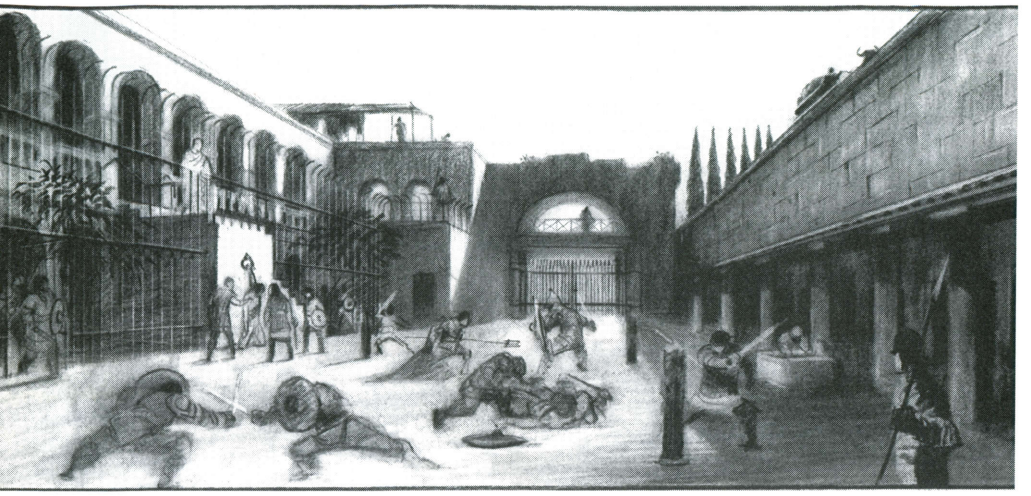
Rebuilding Ancient Rome



A production drawing by Arthur Max details the School of Proxima interior.

We then cheated the reverses by flopping the negative. It was a big savings, but it required a lot of mental agility on Ridley's part, directing left-to-right and right-to-left. For the reverse angles, the actors had to carry their swords and shields in the opposite hands so their weapons would be on the proper side when we flopped the film. Then the visual-effects team 'raised' the Colosseum to its full height and added the 55,000 people held by the original structure."

While basing his interpretation of the Colosseum on projected re-creations by architectural historians, Max also returned to the original source of the film's overall style — Gérôme's paintings — and appointed the arena with phallic-looking columns straight out of *The Last Prayers of the Christian Martyrs* and *Circus Maximus*. The set builders also created elevators to lift wild animals from below the arena's "killing floor," as well as the bowels of the Colosseum, which appear to lie beneath the arena's sandy surface but were actually constructed as a separate set. According to Max, sand was one of the few materials that was indigenous to the island. "That's what Malta has loads of," he says. "It's actually a mid-beige, powdered stone, but [director of photography] John Mathieson felt it was too light, so we art-directed it by mixing in baked, crushed, recycled road tarmac to tint it down."

Historians agree that the original Colosseum was shaded by a massive shade called a velarium, a series of canvas sails that protected

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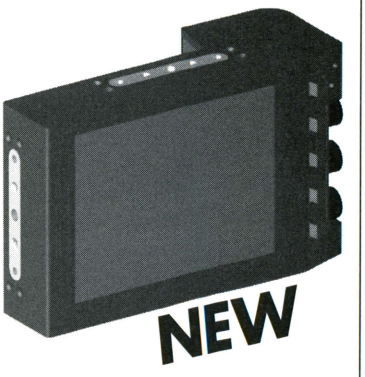

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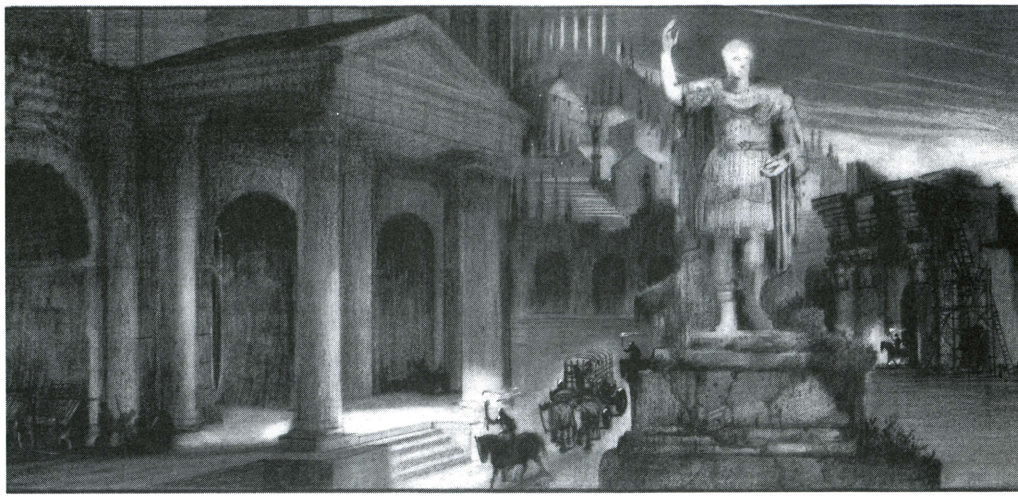
the spectators from the sun. Because Max's team had not built the entire arena, there was no way to build the shade, but they still had to create its effect on the crowd. "We originally thought we could do it with CGI, but it wouldn't have been practical to do that for every shot," Max recounts. "In the end, [at Mathieson's request], we had an engineering firm design a practical sunshade that was only 75 feet in the air to create the proper lighting effect. It was fully controllable and could be drawn like a window blind when we wanted to open it up or close it down."

While using the mechanical shade to create the appropriate shadow play on the cast of thousands below, Max's team built a small section of a full-size velarium. "It was made using the right materials and the right constructional details, including the ropes, pulleys and everything else," Max says. "Then the visual effects team shot that as a plate and scanned it into the computers at The Mill, where they reproduced it by tiling to fill the oval roof of the Colosseum. The way it's put together, it brings the whole setting to life at its full scale."

Although Max says he never had the patience to build real buildings, he enjoyed the formidable task of re-creating ancient Rome over several months. "That was our challenge: to bring the scale of ancient Rome to life," he chuckles. "I mean, how many people get the chance to build the Colosseum in its original form? We were very accurate — I would say obsessively accurate." ■



Another drawing by Max reveals the massive scale of the Roman palatial district, which featured practical columns 40' high and as thick as 8' in diameter.

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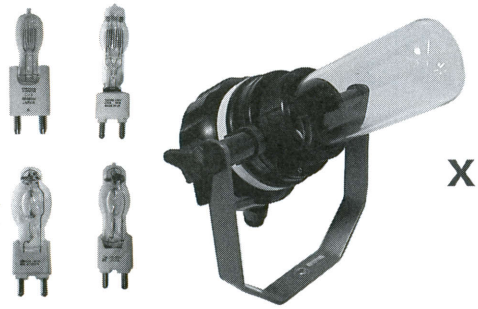

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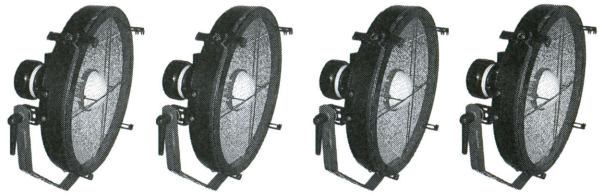

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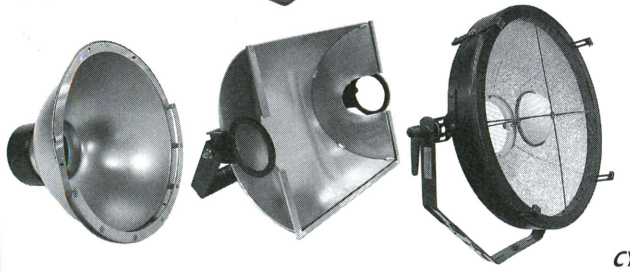

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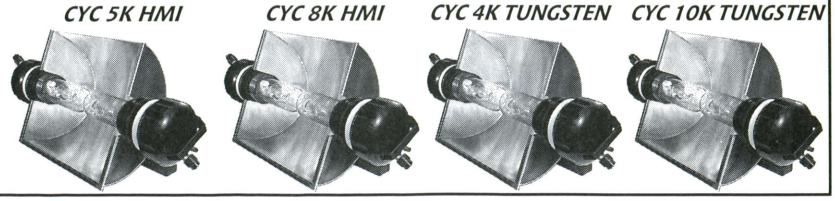

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Must-See TV

Photo by Tory Kooyman, courtesy of CCS.

The ASC singles out 1999's best television cinematography at the Society's 14th annual awards ceremony.

by Jay Holben, Jean Oppenheimer and Christopher Probst

Members of the American Society of Cinematographers joined other industry professionals and invited guests to recognize oustanding achievement in cinematography at the 14th annual ASC Awards ceremony, held on February 20 at the Century Plaza Hotel in Los Angeles. Despite a driving rain that persisted all night, the formal event drew a full house, and the well-versed (and well-dressed) crowd responded with true enthusiasm during the festivities.

The ASC Awards honor photographic achievements in both the film and television arenas. Directors of photography working in television are recognized in two categories — Regular Series and Movie of the Week/Pilot/Miniseries — and five individuals are nominated in each of these brackets. Following are interviews with this year's 10 nominees, all of whom offer insightful details and anecdotes about their nominated programs.

REGULAR SERIES

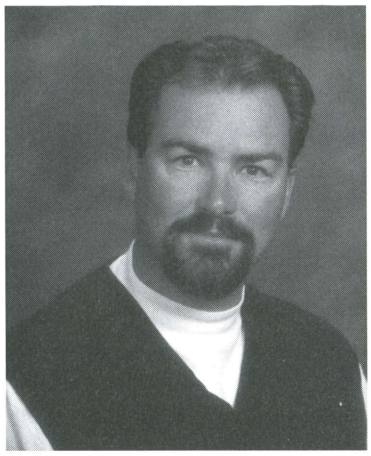
Bill Roe*

The X-Files, "Agua Mala"

This year marked the second time cinematographer Bill Roe has gone home with an ASC award for his work on the popular thriller *The X-Files*. (He won last year for the episode "Drive" — see *AC* May '99.) Roe began his career in the camera department as a loader in the late 1970s; under the tutelage of future ASC President Victor J. Kemper, he worked his way up the chain of command to the position of operator before making the jump to cinematographer. As an operator, Roe worked on such films as *Dave* with Adam Greenberg, ASC; *Wyatt Earp* with Owen Roizman, ASC; *Indian in the Cupboard* with Russell Carpenter, ASC; and *Space Jam* with Michael Chapman, ASC, among others.

Roe's first cinematography job was *Detention: The Siege at Johnson High*, directed by Michael Watkins, ASC. After that successful collaboration, Watkins recommended Roe to photograph the Steven Bochco-produced police drama *Brooklyn South*. When Watkins became a producer on *The X-Files* as it migrated south from Vancouver to Los Angeles, he again turned to Roe to bring darkness to the small screen.

In the award-winning episode, "Agua Mala," FBI Special Agents Fox Mulder (David Duchovny) and Dana Scully (Gillian Anderson) are called to south Florida during the onset of a hurricane to investigate the presence of a bothersome sea monster. Though they find no immediate evidence of the nautical nuisance, the increasing intensity of the hurricane forces them to stay in the town. The agents take refuge in an apartment building that has been almost totally evacuated. While dealing with an almost-dead deputy, an insane and gun-happy survivalist,



and a pregnant woman who is going into labor, Mulder and Scully must also confront the sea monster, who is traveling throughout the building's plumbing.

"It was another situation where there isn't supposed to be any light," recalls Roe. "The characters are inside a building, there's no power, and there's no light coming in from outside, but obviously, the audience needs to be able to see what's going on. The challenge is allowing the audience to see the action and still make it feel real.

"Director Rob Bowman and I came up with a plan for how we were going to achieve the look of this particular show. We decided to make it very natural, mainly using practical lights. We did very little to enhance the lighting beyond the use of practicals — we used lanterns, flashlights and battery-operated emergency lights in the hallways. For the most part, what you saw is what we had; the trick was to put the practicals in the right places at the right time. We stayed true to that ideal as much as possible throughout the show, and it turned out to be one of my favorites from the season. It has a look that is really on the edge, and I'm very happy with it."

When Mulder and Scully discover the apartment building, the storm has nearly reached its peak and visibility is zero. As they run toward the safety of the structure, they are

14TH ANNUAL ASC AWARDS TELEVISION NOMINEES

REGULAR SERIES

Robert McLachlan, CSC
Millennium, "Matroyshka"

John Peters
Time of Your Life, "The Time the Millennium Approached"

Lowell Peterson, ASC
Profiler, "Las Brisas"

Robert Primes, ASC
Felicity, "Todd Mulcahy, Part II"

Bill Roe*
The X-Files, "Agua Mala"

MOW/PILOT/MINISERIES

Thomas Del Ruth, ASC
The West Wing

Jonathan Freeman
Strange Justice

Pierre Gill
Joan of Arc

Robbie Greenberg, ASC*
Introducing Dorothy Dandridge

Bing Sokolsky, ASC
Mind Prey

(* Denotes winner)

Opposite page: ASC Award nominees and special guests gather during a dinner at the Society's clubhouse in Hollywood. Front row from left: Lowell Peterson, ASC, Society President Victor J. Kemper, ASC, Guy Green, BSC, director Ronald Neame, Ossie Morris, BSC, Bing Sokolsky, ASC, Lisa Rich (accepting a plaque for Robbie Greenberg, ASC, who was unable to attend), ASC Awards Chairman Bud Stone. Middle row, from left: Bill Roe, Pierre Gill, Robert Richardson, ASC, Robert McLachlan, CSC, Robert Primes, ASC, Thomas Del Ruth, ASC. Back row, from left: ASC Awards Co-Chairman Owen Roizman, ASC, John Peters, Student Award winner Andrew Huebscher, Marcella Spinotti (accepting for Dante Spinotti, ASC, who was unable to attend), Conrad Hall, ASC, Student Award winner Christopher Popp, Jonathan Freeman, Emmanuel Lubezki, ASC, AMC.

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Must-See TV

pelted by torrential rain and flying debris. The wide shot of the action, filmed on location in Long Beach, California, encompassed a full city block of rain towers and large Ritter wind machines. "The exterior sequence was huge," Roe confirms, "but it was great fun. We used a BeeBee light at the end of the block as our main source, and we had about 50 yards or so of rain towers just pouring down on us. There were guys dumping debris in front of 10 Ritter fans all around. We had one directly behind camera, and we were getting pelted! We had weeds everywhere and branches flying all over the place. The special-effects guys even rigged some lawn furniture to go sliding across the ground. It was quite an evening!"

Roe said his ability to develop *The X-Files*' visual scheme is aided considerably by 20th Century Fox's support for the series. "We always have whatever tools are required to get the job done. If we need two or three BeeBee lights for the shoot, we get them. We have cranes and Steadicam every day, which brings a whole lot to the look. Additionally, we have directors who really know how to work with the equipment at their disposal — you can have all the tools in the world, but if you don't know what to do with them, they're useless."

Now at the end of its seventh season, *The X-Files* has been nominated for ASC Awards for all but one year of its existence. Cinematographers John S. Bartley, ASC, CSC, Thomas Del Ruth, ASC, and Joel Ransom received previous nominations for their work on the show. (Del Ruth shot the pilot in 1993.) "It was very difficult stepping onto this show, given the history of great cinematographers before me," Roe notes. "I was a huge fan of the show long before I got the call to work on it myself, and I've done all I can to maintain the look while still trying to take it a bit further. We're always shooting for the look of a big feature, and we're always looking to push the bar even further, to bring the look to a new level."

The X-Files is shot primarily on Eastman Kodak EXR 500T 5298 stock with a Panavision Platinum and Primo lenses. The production also carries a Panavision GII and a Lightweight for Steadicam use. In addition to the Primo lens package, Roe often turns to the Canon 150-600 T6.7 zoom for ultra-long-lens work.

—Jay Holben

John Peters

Time of Your Life, "The Time the Millennium Approached"

ASC Award nominee John Peters got to where he is today by following his father's advice. "My father is a cameraman, and he told me that if I wanted to work in this business, I had to start off in a rental house, right at the bottom, sweeping the floor and making tea," the London-born cinematographer recalls. "I started off in a facility that had a small rental package for film and video shoots, and I worked to learn as much as I could." Peters soon began volunteering to assist freelance cameramen who came into the facility on weekends, and it wasn't long before he began working as a loader and focus puller.

After an old friend hired him to shoot the feature *Mad Dogs and Englishmen* in the early 1990s, Peters moved to Los Angeles, and he shot three more features — *Campfire Tales, Double Tap* and *Sweethearts* — before he began working on the television series *Sins of the City* in 1998. Producer Ken Topolsky subsequently hired him to shoot *Time of Your Life*, a spin-off of the popular series *Party of Five* that follows Sarah (Jennifer Love Hewitt) to New York.

Peters found visualizing the producer's concept to be an interesting task. "We started off by looking at

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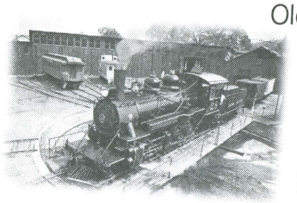

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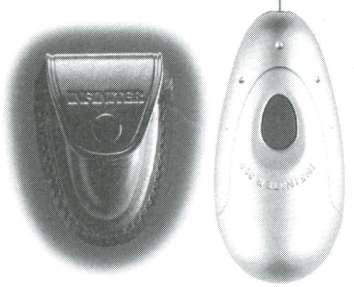

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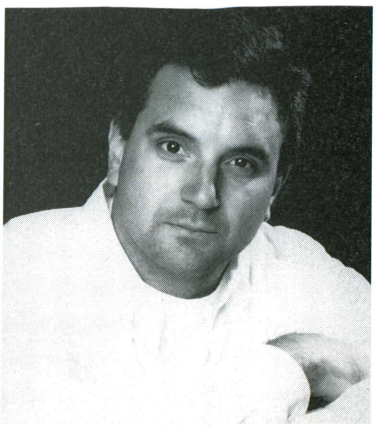
a series of storyboards Ken had made to define the way he saw the show," recalls Peters. "They were all long-lens shots with saturated colors and many fields of information going on at the same time. I thought for quite a while about how I could bring that to life. Traditionally, TV shows are shot on stages and lit primarily with incandescent lights. My approach to this one was much more from a commercial and independent-feature realm — I wanted to make it look more like a movie as opposed to a regular television show, where everybody walks into a keylight and has a perfect backlight. Fortunately, Ken was looking for the same thing."

The episode nominated for an ASC Award this year, "The Time the Millennium Approached," follows the show's principal characters as each struggles to find the ultimate event at which to celebrate New Year's Eve 1999. After their grand plans crumble, they end up arguing in the street outside their apartment building as the hour draws near. When the clock strikes midnight, their anger vanishes and they are caught up in the joy of the moment.

For the pivotal instant, director Robert Berlinger wanted to capture every character's emotions in a single shot. Because they are all huddled in an angry circle as the new year arrives, Berlinger decided on a 360-degree shot from the center of the circle, which would allow a close-up of each character in turn. "That had to have been the biggest challenge of the shoot," recalls Peters. "We had to go from a wide shot on the New York Street at Paramount to a 360 shot where we were literally seeing the world. In addition, Berlinger wanted to speed-ramp the shot, which meant we needed even more light to cover the overcrank. The real lifesaver was bringing in an HMI balloon over-



head for the overall ambient fill, which helped us match the look of the wide shot."

In his approach to the series, Peters uses a slightly different method than usual for nighttime scenes. "For night work, I traditionally put up a Musco or a Condor and keep it very backlit, but I decided for *Time of Your Life* to take a different approach. I wanted to incorporate the real feel of New York at night, which has a substantial amount of light pollution. We use the HMI balloons for ambience and Maxi-Brutes aimed through muslin for fill. We also always have diffusion in the air — interiors and exteriors, night and day. It really helps to create a more realistic environment with a lot of depth, especially with long lenses." Peters attests that Dino Doane of Special FX, who is in charge of the fogger and must maintain the level of diffusion within each scene, has been "a lifesaver," adding that "an eye like his makes my job much easier."

Peters says he likes to work with opposing color temperatures for the series' daylight scenes. "Any time we get near a window, the set is basically bisected with cool, blue, ambient daylight coming from the windows and warm tungsten light on the fill side of the room. We use Xenon sources as raw daylight coming through windows, and key in the room with tungsten sources. I put an 81EF, along with a #1 Soft/FX

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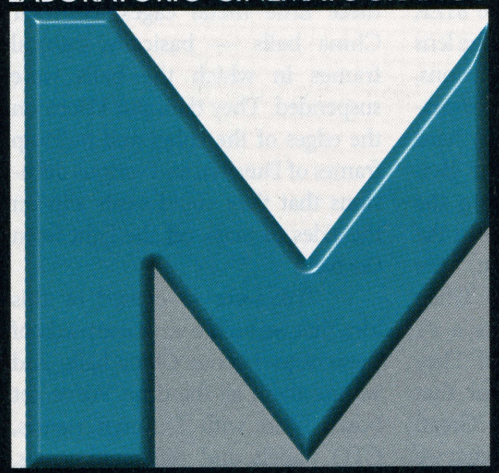

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filter, on the lens to partially correct the daylight back and warm the tungsten a bit."

The cinematographer credits gaffer Brad Lipson with devising a way to dial the shafts of light from the Xenons to any target. "Although I love to work with Xenons, they can be a bit unwieldy to control, especially when you've got diffusion in the air. Brad takes polarizing gel and puts it in front of the Xenon lamp, and then we use a Polarizer [filter] on the lens. We can literally dial in the intensity of that Xenon by varying the degrees of cross-polarization between the two filters.

"We did run into one problem quite a bit, however: with the 81EF, #1 Soft/FX and Polarizer on the lens and hot highlights from the Xenons, we often had a double image refracting off the filters that was very hard to eliminate. Merely tilting the glass in the mattebox wasn't fixing the problem. So we put the 81EF in the rear gel-filter holder in the Panavision, and I called up Tiffen and said, 'Can you make me a #1 Soft/FX and Polarizer combo?' They said, 'Nobody's ever asked for that before, but sure.' I replied, 'Great! Make me two!' — and that's what we use."

The camera package on *Time of Your Life* consists of two Panavision GII bodies with the Primo 11:1 and 4:1 zooms. The series is shot on Eastman Kodak's Vision 500T 5279 emulsion, which Peters rates at 400 ISO. "The crazy thing about TV is that on a day-to-day basis, you are working so quickly," he observes. "Dealing with only one stock [means] you know exactly what it's going to do; your eye is trained to the point where you almost don't need a meter at all. The 79 is a wonderfully robust stock that handles everything I want to do really well. In addition, with a Polarizer and an 81EF on the lens, we're down to an ISO of about 50, so the speed of the 79 is really essential."

Peters also makes ready use of a large collection of China balls, a technique he says he picked up from a January 1995 *AC* interview with Philippe Rousselot, AFC, about his work on *Interview With the Vampire.* "I love the texture of the China balls," Peters offers, "but they're very difficult to control. You've got to keep people away from the walls and keep them underexposed — flagging them is just a pure nightmare!" Peters and Lipson found a solution to their China-ball dilemma by visiting a neighboring soundstage, where Don Burgess, ASC, was shooting the upcoming Robert Zemeckis film *What Lies Beneath.* "They had built these little metal cages for their China balls — basically, cubical frames in which the balls were suspended. They then put Velcro on the edges of the cubes and built up frames of Duvetyn and various diffusions that they could easily slip on the sides to mask off the light from the balls.

"We were so excited by this idea that we built a virtual armada of these cages for our China balls, and we use them all the time. We've got boxes filled with Duvetyn panels, CTO panels and diffusion panels, which we can just slap on and off whichever side of the cages we want. We use various sizes of China balls, and all of them have modified sockets to take 1K tungsten globes, which we put on a dimmer for finer control. I love gleaning tips from fellow cinematographers and sharing those little techniques, because they might help someone else get past some perplexing dilemma."

— Jay Holben

Lowell Peterson, ASC

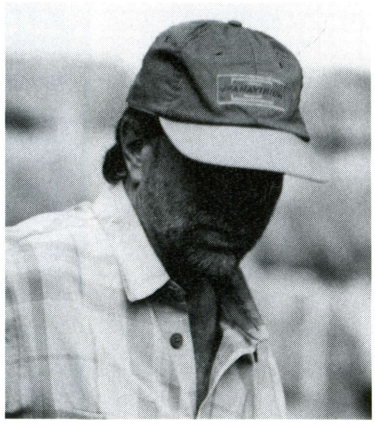
Profiler, "Las Brisas"

Lowell Peterson is the first to admit he sees the world in black-and-white — at least when it comes to cinematography. "I love old movies — all of the classic Warner Bros. pictures, the German Expressionists," he says with a smile. "I am a student of cameramen from Hollywood's Golden Era, and I think of my own photography as shooting black-and-white in color." This isn't to say that he aims for a monochromatic look, however. "We're not taking the color out," he clarifies. "It's that we conceive of the lighting in terms of black-and-white, in terms of the faces always having a shadow side. Color can then bring another dimension to that [scheme]."

Peterson, whose television credits include *Second Chances* (for which he received a 1994 ASC Award nomination), *Lois and Clark* and *Knots Landing,* was recognized this year for his work on *Profiler.* The nominated show was the last episode of the season, a two-hour special in which FBI agent Samantha Waters (Ally Walker) crosses the border into Mexico to track down a serial killer who has been preying on young women.

When Peterson came on board at the beginning of the show's third season, he was given great leeway to change the look of the series. The first two seasons had been quite stylized ("almost like Grand Guignol," according to the cameraman), and the program's new team of producers wanted to go in a completely different direction. "Full-on film noir" is how Peterson describes the show's modified look. "It's film noir mixed with realism," he offers. "It's that German Expressionist proclivity put in the streets of urban America."

Peterson and his longtime gaffer, Joe Gallo, approached *Profiler* as they do all of their work together — from the perspective of black-and-white photography. "Joe and I have come up with a zone system, similar to the system used for black-and-white still photography, where we previsualize the tonal range of what we want something to look like, and then we light for that range.



We don't work in f-stops; we work in zones and read our meters directly in zones. The zones are from 0 to 10; on TV, it's from about 2 to 9. Skin tone would be at zone 6. Zone 5 is right in the middle — 18 percent gray."

"Las Brisas" was an atypical episode of the series in that eight of its 16 shooting days were spent on location — in Piru, California (standing in for Mexico). The story jumped back and forth between a trial taking place in Atlanta, where the series is ostensibly set, and the Mexican location. The Atlanta sequences were played cool and bluish, while coral gels and half-straws warmed up the Mexico scenes.

Peterson says that the crew's biggest challenge proved to be five night exteriors at the big desert landscapes where the grisly murders occurred. "On a TV series, you don't have the resources to light up a huge landscape," he admits "Fortunately, we had a very creative director in Lee Bonner, with whom I've worked a lot. We came up with the idea of shooting the master shots for each of the five desert scenes at magic hour. Then, for the closer shots, we built a huge desert set in a warehouse in Culver City and matched the two."

Making that task slightly more difficult was the fact that the warehouse scenes had to be shot first. Peterson lit the set (specifically, the sky cyc) to the level he previsualized that the sky would be at when the

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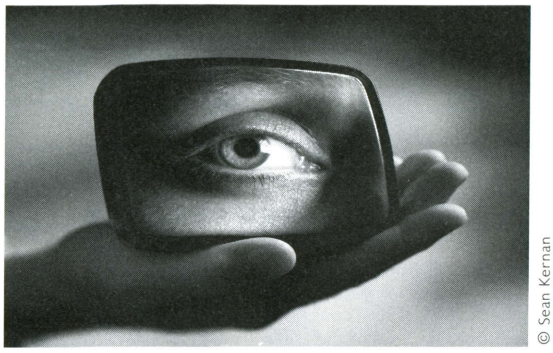

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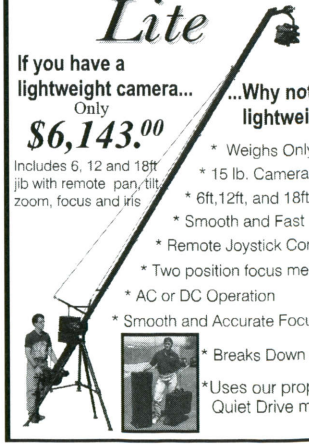

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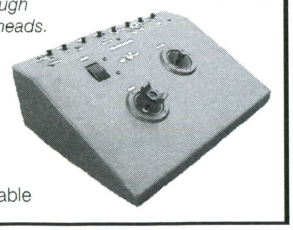

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crew shot on location. These scenes were supposed to take place in the dead of night; by shooting at magic hour and throwing in lots of grad filters, Peterson was able to knock the sky way down so it looked like night. The single light used on location and on the stage was a ¾ back keylight up in a Condor. "We set the exposure in the camera so the desert barely read, then I put tons of grads in so the sky was very dark," recalls Peterson. "Those were the really horrific scenes in the show, so we wanted them really dark — just one light for contrast." As he had done for all of his work on the series, Peterson used a custom-made ⅜ Tiffen ProMist on everything in order to get a diffused look.

Throughout "Las Brisas," the lead character has visions — short bursts of insight into the criminal's mind that appear onscreen as hard-to-decipher visual fragments, some in color, some in black-and-white. Peterson experimented with black-and-white stocks, but in the end he switched to color film and took the color out in telecine. He also used some Fuji Velvia reversal still stock. (Its motion-picture equivalent wasn't available yet.) "We loaded a 36-exposure roll into a still camera, [then attached] a motor to the camera. By hitting the motor, we found a speed that was about 9 frames per second. We'd get these bursts at 9 fps, then I'd take the slides from those shots to the telecine house, and they'd telecine them at 9 fps. We'd end up with three-second bursts of weird, incredibly vividly colored images, which were actually in real time but would sort of smear across the frame. I'd always have the stills guy do a panning shot to get that smearing movement. It was really effective." When Fuji came out with its Velvia motion-picture stock, Peterson tried it, but he wasn't as happy with the results.

The cinematographer says he is particularly proud of the fact that

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the ASC recognized the final episode of the 22-episode season. "Shooting a TV series is like [running] a marathon, and for us to get nominated for the last show of the year is a tribute to my crew and their stamina," he says with a laugh. "A lot of crews have given up by that point."

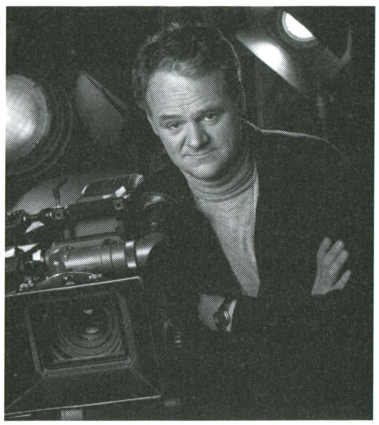
— Jean Oppenheimer

Robert McLachlan, CSC

Millennium, "Matroyshka"

Before it was canceled last year, the series *Millennium* earned Vancouver-based cinematographer Robert McLachlan, CSC, three ASC Award nominations during its three-season run. (The cinematographer was nominated for the 1998 episode "Skull and Bones" and for the 1997 episode "Thin White Line.") After the series wrapped, McLachlan shot the feature *Final Destination*, written by James Wong and Glen Morgan (former co-producers of *The X-Files* and *Millennium*) and directed by Wong, and he has just finished shooting the pilot for Chris Carter's *X-Files* spinoff series about the Lone Gunman trio. McLachlan's other credits include the telefilms *Sight Unseen*, *Murder at the Door*, *Abduction of Innocence*, *My Name Is Kate*, *Courting Justice*, *The Comic Book Chase* and *Always a Bridesmaid*, as well as the series *Strange Luck*, *The Commish*, *The Odyssey* and *MacGyver*.

"It was tough deciding which episode to submit [for ASC consideration]," states McLachlan. "Usually there's one episode that stands out, but during [the final season] I had three or four episodes I felt were exceptional. I finally chose 'Matroyshka' because the visuals had a nice variety — most of the episode takes place in a flashback. One of the great aspects of doing a series of that scale with [*Millennium* creator] Chris Carter is that you're not always stuck in the same look. I was really lucky, because everyone



[on the show] always embraced any idea I had."

"Matroyshka" was unique among the episodes of *Millennium* that aired last year, not only because a majority of the show unfolds in flashback, but also because it doesn't feature the show's main characters. Instead, the episode "follows an old, retired FBI agent, who's living in a retirement home, as he goes through all of his issues," McLachlan explains. "As it opens, we are in this rather dingy, very *Millennium*-esque retirement home; then, when he finds his old fedora, we match-cut back to the mid-1940s as we unfold the story of an unsolved mystery from this character's past. I wanted the flashbacks to feel distinctly different from the rest of the show. [It's easier to] evoke the feeling of a certain era if you light the way the films were lit during that era, so I went for a fairly glamorous, slightly diffused film-noir style — like classic, black-and-white photography. Any time you do period stuff, it's fun."

The director of photography used the Arriflex Varicon, which he had already employed a few times on the series, to establish the look he wanted. "We didn't want to go to black-and-white for the flashbacks, and we didn't want our normal color look, either, so I used the Varicon. Normally, *Millennium* had a very contrasty look; I never used anything to reduce the contrast. But with the Varicon, I could inject some color into the shadow areas."

McLachlan adds that one of the Varicons he used on the show was his own. "I rented a second one from Clairmont for the B camera," he says. "For the flashbacks, I used a Rosco chocolate gel for both Varicons. That way, we injected some nice, warm tones into the shadows. I then used some Schneider Classic Soft filters, which are really fabulous. They're like classic old Mitchell filters, but they're very consistent. They gave those sequences a bit of an aura and glow. Also, in the lab, I timed the flashbacks to be fairly warm as well. It wasn't as extreme as something like the flashback sequences in *The Godfather*, but it was something along those lines. Throughout the [episode], there was some nice contrast between the two eras."

Although "Matroyshka" has a more noir look, the lighting style McLachlan used wasn't too different from that of a regular episode, because he often employs more of a black-and-white lighting strategy to create the show's highly contrasty, desaturated look. "The noir look [of the nominated episode] was mainly achieved with lighting and exposure, and I used a little more of a totally hard-light style of lighting. I used a nice, strong Baby for the key and made a more traditional use of fill, kickers and backlight. However, I would occasionally back off on the backlight — if I felt if it was a bit too contrasty, for instance — and let the fill side just melt into the shadows in the background, which had a really nice feel. The thing I like about using hard light is that you can cut the light so nicely; it's so much easier to control compared to softer light."

Although McLachlan frequently used different stocks (including 16mm emulsions) to create specific looks throughout the series, he shot "Matroyshka" entirely on Eastman Kodak's EXR 5298. "We shot the episode in December, and that time of year in Vancouver is so

dark that I didn't even bother using slower film in the morning, because we'd be switching by two in the afternoon anyway. I only used 98, which I underrated by a stop."

Incorporating classic, studio-style lighting was a particular challenge on the episode, because it was shot entirely on location in a variety of places. "We were *totally* on location for this episode, so we couldn't work in a 'studio' style, hanging lights off a grid," he points out. "Luckily, the director was fairly open to working around whatever constraints a particular location [had], and because of my documentary background, I have a real preference for letting the in-shot sources serve as the source lighting for the actors.

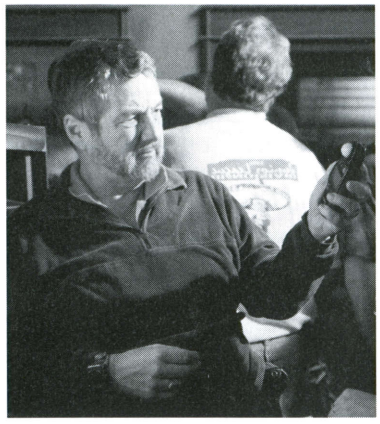
"For the flashbacks, we were very careful with the tones and colors we used. We kept everything in the browns, grays and blacks. Our palette in the normal world of the show was also always very 'teched down,' but more in the greens and blues, so that also provided a nice contrast between the two time periods."

— Christopher Probst

Robert Primes, ASC

Felicity, "Todd Mulcahy, Part II"

Director of photography Robert Primes, ASC, had already won an Emmy Award for this ASC Award-nominated episode of *Felicity* (see *AC* Nov '99). "Todd Mulcahy, Part II" is the second in a two-part episode dealing with the return of a childhood boyfriend whom Felicity (Keri Russell) hasn't seen since she was about 12, but who nonetheless proclaims his undying adoration of her. In the first installment, Mulcahy re-entered Felicity's life and began to systematically woo every other person she knew, almost suffocating the oft-perplexed coed. Toward the end of the episode, in an effort to control the situation, Felicity agreed to have dinner with Mulcahy, but refused to kiss him afterwards. As



they left the restaurant, he persisted, backing into the street and into the path of a speeding municipal bus.

"Part Two begins in the hospital, as Mulcahy is being wheeled down the corridor by emergency stat teams," explains Primes. "He really should have been killed. He is severely injured, but miraculously, he's not dead. *Felicity* is normally a very thoughtful show and doesn't feature these physical traumas, so we decided that when we did have one, we wanted to hit pretty hard with it. We therefore did something in the opening of Part Two that we never do on the show: we made the hospital trauma ward very hot — allowing the lights above the scene to go more than three stops overexposed, blowing out the whites and making the image contrasty and distressed. It was almost a music-video kind of look, and a real break from the style of the rest of the show."

Besides the high-octane pace of the trauma sequences, Primes is also fond of the episode because of its focus on art. "In the previous episodes, Felicity had been trying to get into this very prestigious medical seminar held by a famous teacher. She's a very good student, a bit of an overachiever, but she's still required to go in for an interview. However, Todd has gotten her thinking about the direction of her life by questioning why she's going into medicine when she had wanted to be an artist all her life." ➢

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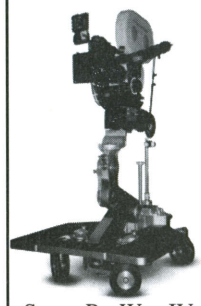

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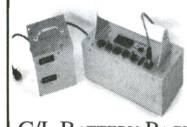

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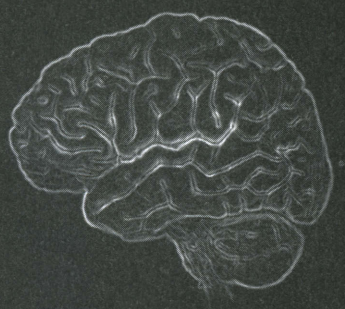

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Primes describes a sequence in which Felicity wanders into the art department at her school: "The idea of her going into art appealed to me, because you can't be a cinematographer without having almost a reverence for art — we call it 'the art of cinematography' for good reason! The idea of Felicity rediscovering the magic of art was particularly touching and important to me, and we decided to make the art world more magical. The show is always well-controlled, with pretty, classical tones. We normally don't use smoke, but we did in the art-department set. It had big windows, and we put a 20K outside them to create beams of light in the smoke.

"As Felicity wanders into the [department], we do a nice tracking shot as she passes by people painting and working with colored glass. She's almost totally silhouetted as she passes by a succession of paintings in the foreground, [illuminated by] these little clip-on reflector lights, and the 20K creating shafts of light through the smoke made the ambience very ethereal and pictorial. We made this environment almost like a holy place. I thought those scenes were especially beautiful, perhaps the most beautiful we shot all year."

Primes's Emmy for *Felicity* was his second; he'd previously earned the honor in 1995 for *My Antonia* (which also garnered a Cable ACE Award nomination), and was nominated in 1996 for *Cry of the City*. The cinematographer was nominated for an ASC Award in 1991 for the pilot of *Reasonable Doubts*, and his extensive television credits also include the telefilms *Sealed with a Kiss*, *Blood on Her Hands*, *Scared by Love* and *Sandy Bottom Orchestra*, as well as the pilots for *All Together Now* and *Malibu Shores*. Primes's feature credits include *A Murder of Crows*, *Bird on a Wire*, *The Hard Way*, and a shared credit with Russell Carpenter, ASC on the hit comedy *Money Talks*.

— Christopher Probst ➢

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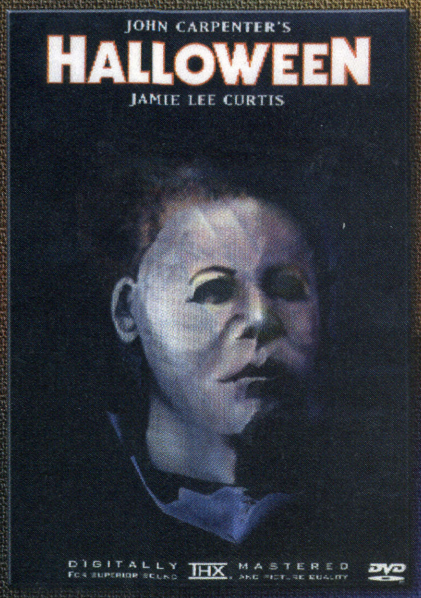

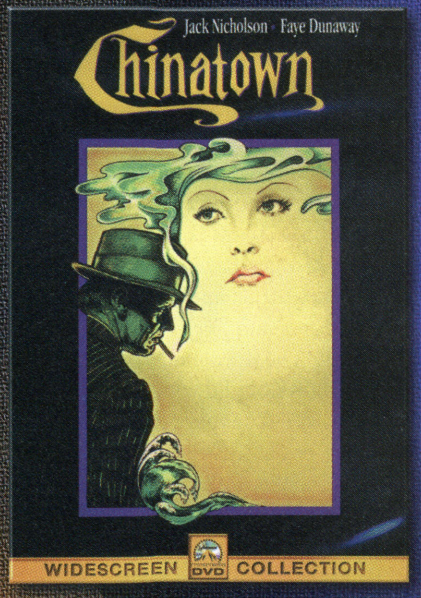

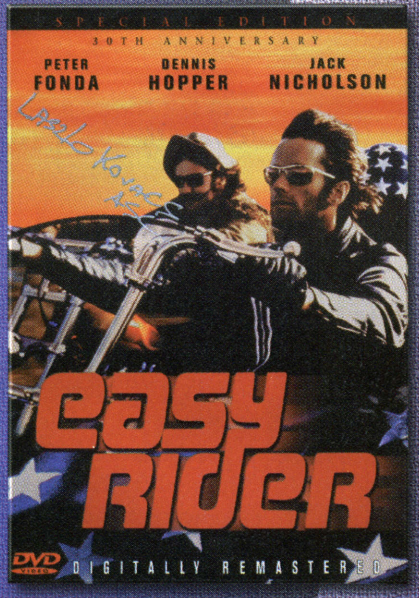

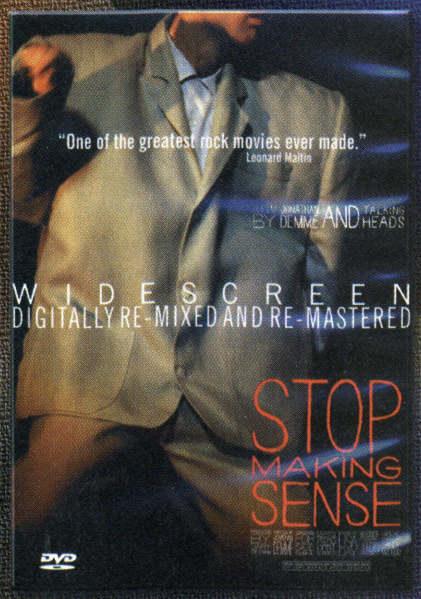

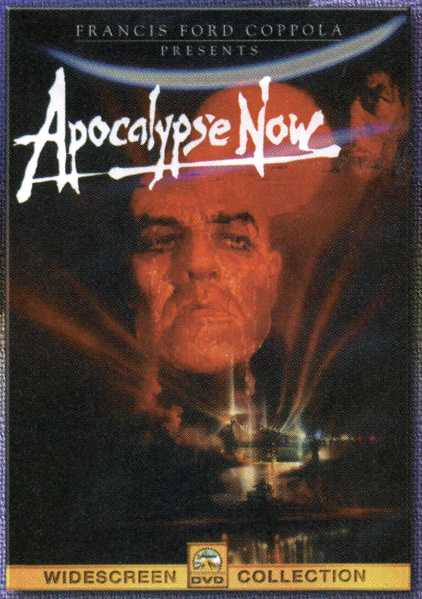

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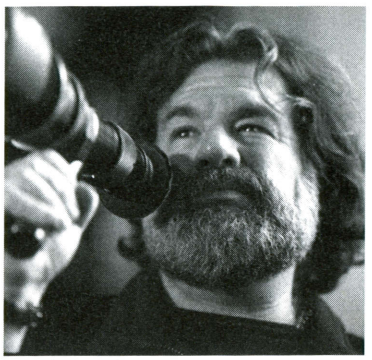
Robbie Greenberg, ASC*

Introducing Dorothy Dandridge

The glamour and tragedy of Hollywood came together in the life of Dorothy Dandridge. The gifted singer/actress made history as the first black woman to earn an Academy Award nomination for Best Actress (for her performance in the 1954 picture *Carmen Jones*). Set in the 1940s and 1950s, HBO's *Introducing Dorothy Dandridge* (see *AC* Aug. '99) opens with the eponymous heroine (Halle Berry) as a bright-eyed and vivacious beauty of 19. Dandridge's personal and professional hardships take their toll, however, leading to years of drug addiction and alcoholism before she finally is able to kick the habits.

Visually, cinematographer Robbie Greenberg, ASC, and director Martha Coolidge wanted the film to reflect a romanticized view of Hollywood, while still conveying the ravages of addiction. "I think Dandridge was really attracted to the glamour and romance of the movie industry, and I wanted to heighten that in the photography, to give the film a kind of fantasy feel," says Greenberg, whose work on another HBO bio-pic, last year's *Winchell*, earned the cameraman his first ASC Award. "Halle is beautiful; there is no way to light her badly. Still, there are techniques you can use [to convey the effects of age or addiction] — just moving a light one foot in one direction or another creates shadows on a person's face that can help to make them look older or more haggard."

Dorothy Dandridge was Greenberg's second musical (after 1985's *Sweet Dreams*), but the first project for which he's shot dance numbers. Giving each of these sequences a distinctive look required careful thought. Even though a spot-



light was characteristic of nightclub lighting in that era, Greenberg used this familiar motif in just two of the performances, and only once for an entire routine. For back-to-back acts at the Cotton Club (a performance by the Dandridge Sisters, followed by a routine featuring the Nicholas Brothers), he took advantage of footlights on the dance floor: ordinary black-iron forms with mushroom bulbs. "They became a compositional element," he notes. "We shot a lot of cross angles [in which] they were actually on camera. When shooting directly into them, we would dim them to avoid burning out the image." Additional units were placed around the room to augment the footlights.

Although the lighting didn't change one iota for the two numbers, the scenes look completely different: the first one, featuring Dorothy and her partners, features a warm, golden glow; the succeeding scene, in which the Nicholas brothers perform a wild tap dance, has a pronounced greenish tint. According to Greenberg, the difference lay in the camera angles. "The footlights created a yellow-green cast on the floor. [By widening the shots] in the second sequence, we showed the footlights more often, which makes that sequence look greener."

For Greenberg, cinematography is about "capturing very human moments," and he draws inspiration from the great still photographers, especially Henri Cartier-Bresson, Robert Doisneau, Eugene Smith and Alfred Stieglitz. One memorable scene in *Dorothy Dandridge* focuses on the star as she applies her makeup before a performance while sitting in front of a single, bare lightbulb. "It was never very happy for her when she was looking into the mirror, doing her makeup," explains Greenberg, who wired the single bulb to a dimmer and cranked the intensity down, so the fixture would seem fully lit without flaring or burning out the frame. "I played that sequence kind of dark and somber, because I felt it was emotionally right." A couple of Mole-Richardson Midgets, diffused through a piece of bleached muslin, augmented the source.

"There was a time when I was very true to the sources, and my main light would come from wherever those sources were," continues Greenberg, whose credits include the features *The Milagro Beanfield War*, *Free Willy* and *Creator*, and the telefilms *Second Serve* and *The Winter of our Discontent*. "I've since abandoned that approach — now, I do whatever looks good to me. The more experience you have, the more freedom you have to maintain a feeling [while] doing whatever you want."

While working with director Karel Reisz on *Sweet Dreams*, Greenberg picked up some valuable pointes that he later applied to both *Winchell* and *Introducing Dorothy Dandridge*. "Bio-pics cover such a vast amount of time in a person's life that it's good to try and minimize the cutting from scene to scene," he says. "You don't want a bio-pic to feel like a 'cutty' movie. Each scene should tell a little story on its own, and then move on to something else."

— Jean Oppenheimer

Thomas Del Ruth, ASC

The West Wing

Thomas Del Ruth, ASC, has become known for creating trend-setting television looks. The cinematogra-

pher won two ASC awards in 1995 (one each for the pilot and the "Day One" episode of *ER*), and he was nominated in 1994 for the pilot of another influential hit series, *The X-Files*.

The pilot for *The West Wing* reunited Del Ruth with *ER* producer John Wells. The script was written by series creator Aaron Sorkin, who has also penned such features as *A Few Good Men* and *The American President*, both of which tackle many of the same themes and conflicts presented in the series. "*The West Wing* deals with the inner workings of the White House," Del Ruth notes. "When I first read the script for the pilot, I thought it had some brilliant characterizations of White House personnel; it really presented some of their frailties and human qualities. I felt that the show was essentially an optimistic depiction of the White House, so I thought we should we create a certain optimism in the imagery.

"The light in the show has a somewhat soft, golden quality; the characters are made to look their best, and the sets look beautiful. We are trying to project a particular attitude about government — it's an almost Camelot-like environment. Within this environment, we have human dramas that take place in which the characters are not always in the best of moods, and political deals are made [out of] expediency. We also deal with the idea that this political infighting will produce results that will ultimately be better for everyone."

In executing this idealized depiction of government, Del Ruth was presented with a few obstacles. For one, the show is set in a location whose details have been repeatedly etched in the public's mind. "The colors of the walls are as close as possible to the colors the White House has used," Del Ruth confirms. "However, we took some liberties, enriching some of those

colors while desaturating others. There were also some liberties taken in the placement of one room adjacent to another; the layouts we use may or may not exist in the real White House, but they facilitate our staging and add more dynamics to the compositions. For example, in any given shot, we attempt to include two or three rooms to give a sense of extreme depth. That conveys the impression that we're dealing with a large organization, rather than some law firm in Beverly Hills."

Although the series is shot in 35mm, the pilot was photographed in 16mm. "I thought that was an odd decision, because Warner Bros. put so much money into the sets and all of the other aspects of the show," Del Ruth laments. "However, when we went into production on the series, they felt it was better to shoot in 35mm because we will ultimately go to the HDTV format. *The West Wing* has a high-contrast yet slightly desaturated look, with a slightly romantic feel. I shot the pilot on Vision 500T 5279, but unfortunately, when we switched to 35mm, Warner Bros. decided that the Vision stock was too expensive. We therefore switched to [EXR] 5298 [at the beginning of the season]. I'm very familiar with 98, but its somewhat broader tonal range wasn't as elegant-looking for what I had envisioned the White House to be — that stock tended to flatten the image too much. I had to combat that by using less fill light

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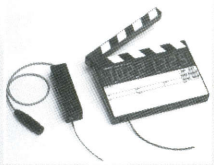

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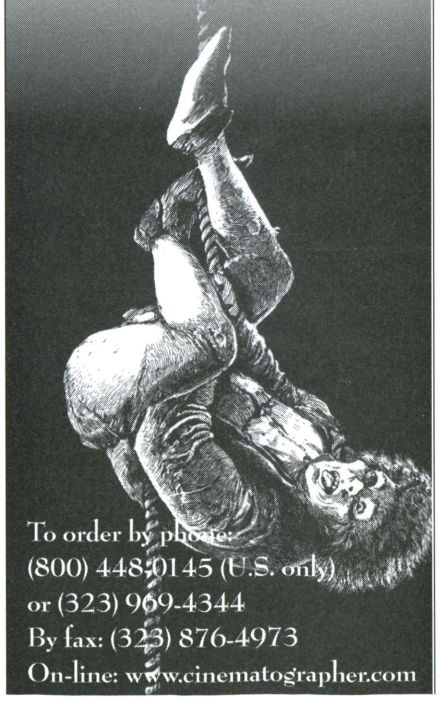

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and other techniques, but I never was quite satisfied with the look. Ultimately, however, Warner Bros. developed some sort of difficulty with the 98, so we went back to Vision 500T and the look I originally wanted."

One of the reasons Del Ruth appealed to *The West Wing*'s creators was his use of high-octane, frenetic camerawork on *ER;* they wanted their pilot to feature some of that same kinetic energy. "We originally planned to shoot about half of each episode with a Steadicam," Del Ruth reveals. "With that approach in mind, our lighting style had to be somewhat similar to what we'd done on the original *ER* episodes. For those shows, I rigged the lighting into the sets so that the camera could float around 360 degrees, and we were able to avoid multiple shadows through our use of dimmer systems and cues. My gaffer, Jeff Butters, and I also rigged the *West Wing* sets in a way that would allow us to shoot in any direction. However, we're now probably down to about 20 percent usage of the Steadicam [in each episode], because we found that the pace, rhythms and resonance of Aaron Sorkin's writing don't necessarily require us to add any energy to the scenes.

"Rigging the lighting into the sets was fairly expensive," he continues. "We have more than 1,200 lighting instruments, ranging from Pans all the way down to Midgets. We have boxes I designed -- which I call bat-lights -- that are six inches high, 24 inches wide and about 18 inches deep; they're covered in two layers of diffusion [half grid and full grid] and baffles to direct the light. Inside, I have eight MR-16s, which produce 250 watts of light and can burn for 200 hours before they start to go yellow. With the dual layers of diffusion, the piercing shafts that the light would cause on its own is now heavily diffused. It creates an almost shadowless effect, yet in a very broad range; even though the light is only six inches high, it ranges from 24 to 30 inches wide. I put those up on the ceiling in the corners of all sets and in the center of each wall. That way, no matter where an actor is standing at any given time, we don't have to hang an additional light. We can just bring up one of those as a backcross, a backlight, a liner, or occasionally even as a keylight or additional fill. They're very efficient and quick to manipulate.

"Additionally, I had MR-16s built into the ceilings to add to the kinetic sense of movement that the Steadicam creates when a character is moving from Point A to Point B. The MR-16s point straight down and create narrow shafts, and as an actor walks under them, his or her light level goes from an ambient T2 to about a T11. With the rapid motion of the actors, combined with the Steadicam [action], the lighting punctuating their heads gives the image an almost stroboscopic look, and adds to the feeling of camera movement. That's one of our theatricalizations of the White House. The actual White House has lights pointing down, but of course, they don't produce the same shocking effect that ours do."

In addition to his ASC Award nominations, Del Ruth has been nominated for two Emmys (in 1980 for *The Last Convertible* and in 1995 for *My Brother's Keeper*). His feature credits include *Stand By Me* (which earned him a 1986 ASC Award nomination), *The Breakfast Club, Fandango, Quicksilver, The Running Man, Look Who's Talking, The Mighty Ducks* and *Up on the Roof.*

— Christopher Probst

Jonathan Freeman

Strange Justice

Strange Justice marks Jonathan Freeman's second ASC nomination for television series work; the first

was in 1998 for his collaboration on the series *Prince Street* (see *AC* May '98, which also earned the cinematographer a CSC Award nomination. Freeman studied his trade in Montreal, where he and his fellow students were expected to direct their own films within the first year. "I knew from the very beginning that I wanted to do cinematography," recalls Freeman, "so I told them flat out that I would make a better cinematographer than director. Since the rest of the students were concentrating on directing, I became the school cameraman, and I was able to shoot quite a number of student films."

After he finished school, Freeman worked for a short time as an assistant cameraman, "which I was not very good at," he confesses. As fortune would have it, a school friend rescued him from his turmoil by giving Freeman his first job as a cinematographer, on a low-budget TV series in Quebec.

Since then, Freeman has shot several series, MOWs and independent feature films, including *Promise the Moon* (also nominated for a CSC Award), *Resurrection*, *The Courage to Love* and *Possible Worlds*. He first collaborated with *Strange Justice*'s director, Ernest Dickerson, ASC, on the pilot for the ambitious science-fiction series *Future Sport*. "Ernest is great," asserts Freeman. "This ASC Award nomination is as much his honor as it is mine. Since he's also a director of photography, he knows exactly what he's asking for when you're setting up a shot. When he had roughly blocked a scene with the actors, he'd bring me in to watch a rehearsal and point out what he wanted to do with the camera. I'd sit there, watch the blocking and think, 'I'll put my lights over here, and then we'll do this and that. . . ' -- just quick, broad strokes in my mind. Then, at the last moment, he would pan his hand over, indicating a camera move that pointed exactly to where I thought I was going to put

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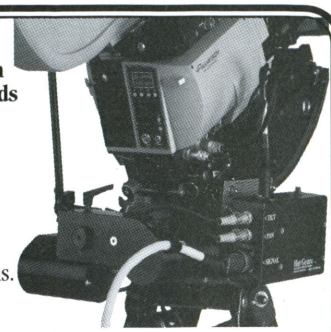

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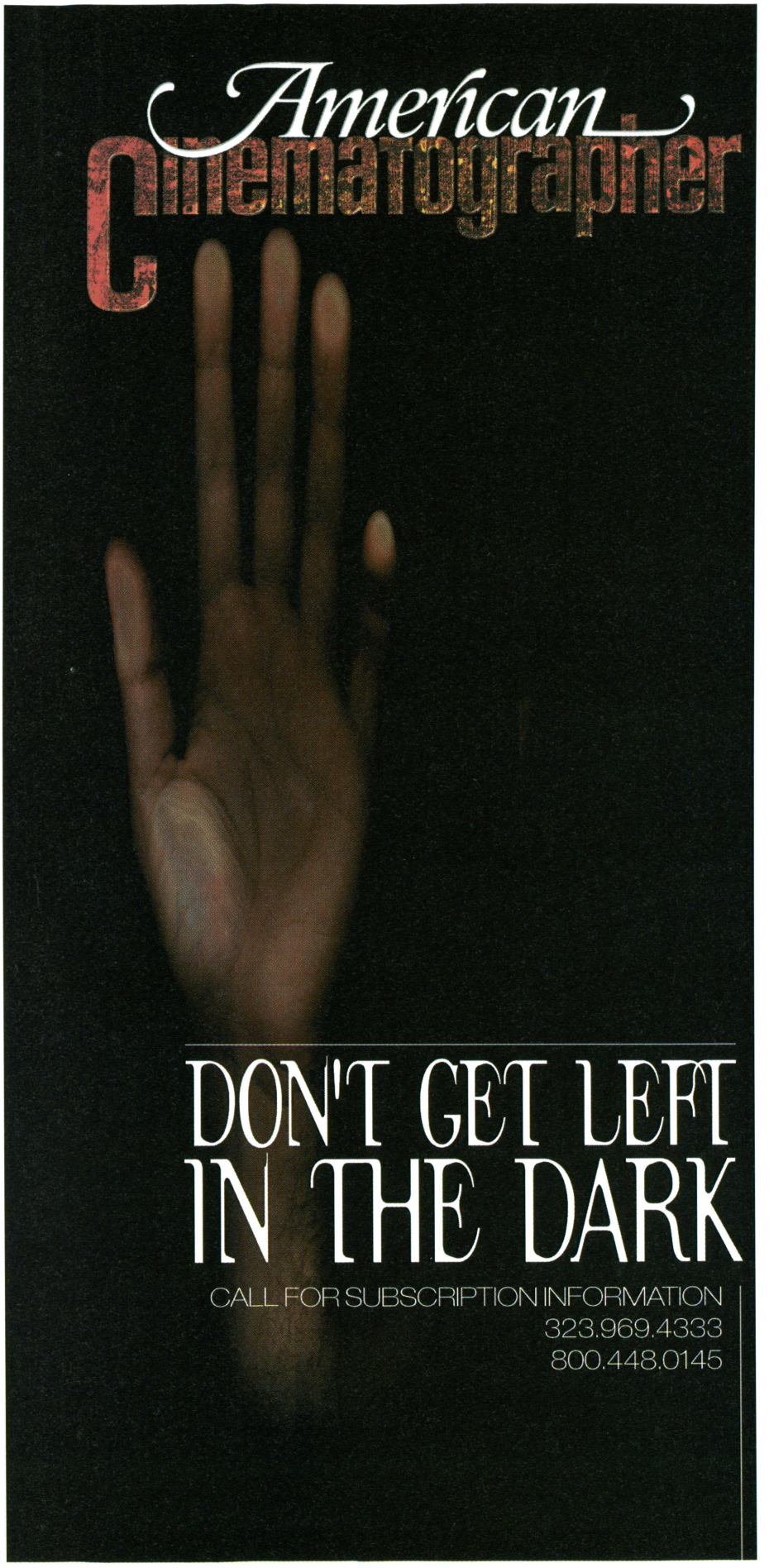

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my lights. He'd turn to me and smile, knowing that I'd have to think of something else!"

The story of *Strange Justice* centers on the sexual-harassment charges that Anita Hill brought against Supreme Court appointee Clarence Thomas. "When it came time to shoot the Senate hearing, Ernest wanted two different looks," recalls Freeman, who shot the film with a Moviecam package, entirely on Eastman Kodak's Vision 500T 5279 emulsion. "First, he wanted to be true to the real environment of the hearing. Because it was really one of the first televised hearings, many people remember even the most specific details, such as Anita's blue dress, the camera placements and the lighting. We wanted to stay true to that, but at the same time find another way to express what these characters were going through in a more visceral, emotional way.

"We shot the sequences in two completely different ways. First, we re-created the trial down to the smallest detail, including the exact camera angles [used in] the TV coverage. Then, we took a more surrealistic approach to more dramatically express the emotional and psychological turmoil these people were experiencing. We did that by turning the Senate room into another world. The walls were made out of scrim; we begin in a regular environment, but when Thomas is sworn in, the walls literally disappear and we are left with just the architectural skeleton of the space -- the Roman columns standing silhouetted in this white, limbo space.

"That made the look very theatrical, but it also created a venue for the actors to be much freer in the way they presented their testimony," Freeman explains. "The dialogue was verbatim from [public record], but as you might recall from the hearings, both Anita and Clarence were very reserved in their testimonies — they both played it very close to the hip.

Going in a more surreal direction created a platform for the actors to create their own interpretations of the emotional and psychological [processes] these two people were going through. We took that idea further by adding more energy to the camera coverage in the form of speed changes, ramping, shutting off the camera during a take and turning it back on again -- all to further emphasize the psychological shifts. We also decided to desaturate the color almost to a sepia tone."

In another sequence, the FBI arrives at Clarence Thomas's house to question him. "We were working on a dark, moody, overcast day, and I set up all my lights, but I kept thinking in the back of my mind that I would like to somehow lose the identity of the FBI agents -- in other words, try to silhouette them. Suddenly, the sun broke out, and because of the way we had lined up the shot, the sun was shining right down the [lens] barrel, but we decided to run with it. We panned the shot back and forth between Clarence and the agents, who were harshly backlit by the sun; the look wound up being appropriate for the scene, because it indicated the anonymity of the scrutiny Thomas was enduring at that time. I added to the look by creating a harsh kick from the sun that looked as if it was coming off a car windshield and hitting Clarence. When the natural elements introduce something you

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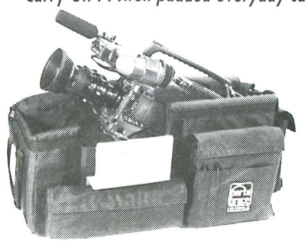

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hadn't thought about and you're fortunate enough to capture it on film, it's a very satisfying feeling."

Freeman calls his ASC Award nomination "the highest honor I could ever possibly receive," adding that he has been overwhelmed by his peers' generosity. "During the events surrounding the ASC Awards, I got the opportunity to talk to and share ideas with the cinematographers who have inspired me, some of whom made me want to be a cinematographer in the first place. There doesn't seem to be any competition among them; it's all about sharing information and admiring each other's work. I was absolutely thrilled and very flattered to be nominated by ASC."

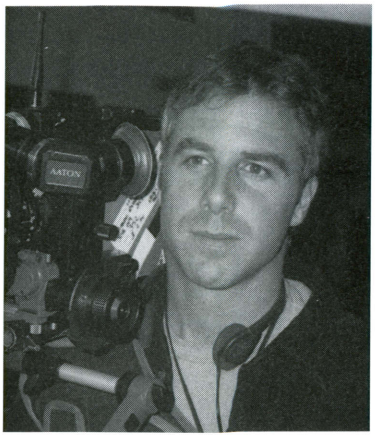
— Jay Holben

Pierre Gill

Joan of Arc

When he was just 16, Pierre Gill was convinced by a friend to join him at the town hall for a weekly photography course. "He said we should do it just for fun," recalls the Montreal-based cinematographer. "Prior to that, I had no interest in photography. I don't have any relations in the industry, either. My father wanted me to be a doctor or a lawyer, but that didn't sound right to me."

When it came time for Gill to apply to colleges, he chose a photography school so he could continue studying his newfound interest. "I didn't get in," he confides. "Instead, I enrolled at Jean de Brébeuf University as a communications student, and the amazing teachers there made it the most important place of my life. They were passionate and cared for their students. We covered a bit of everything: journalism, photography, theater, radio, television and cinema. I watched an Eisenstein film in one class and was amazed at the power of the film itself. I also saw a lot of French cinema there, including Cocteau and



Godard — things I never knew existed." When the time came for each student to make his own Super 8 chase film, Gill's short stood out for its creativity and execution, and it made him the most sought-after student cinematographer on campus.

Employment was not easy to come by after college, however, and out of frustration, Gill and two of his friends (a producer and director) formed their own company when he was 24. After executing a series of low-budget music videos, the trio landed a 60-second spot for America clothing that was released theatrically. The spot was a smash hit, and Gill and company were off and running.

Although they'd never worked together before, Gill and *Joan of Arc*'s director, Christian Duguay, had lived in the same town and knew each other fairly well. They'd often discussed collaborating on a project, but it wasn't until CBS hired Duguay to helm *Joan of Arc* that they finally got the opportunity to do so. "The next thing I knew, I was on a plane to Prague for six months of preproduction," Gill recalls. "We were set to deliver the finished product on May 16, and it was already late October. The initial script had more than 400 pages with no dialogue, but I just shook my head and said, 'Okay, let's do it!' It was a crazy shoot — 95 days is not a lot of time to make a four-hour historical epic. It made the production itself an epic: it was war,

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and we were deep in the middle of it. At one point, I saw 10 guys pushing a 30-foot crane through the muddy battlefield while a jeep pulled it along, and they were surrounded by knights on horses and hundreds of period extras -- it was amazing!

"There are a lot of locations in the film," Gill continues, "and each one was an entirely new challenge. They were all really old places, and there was literally no access to them. Of course, they're castles, which were *built* to keep people out! We couldn't even get a pick-up truck through the gates, so we used a tiny Army jeep, [which] we'd load, drive through the gates and up the windy road to the castles, drive through another gate and then unload. Then we'd send the jeep back for the next trip. It was incredibly tedious."

Once inside the castles, however, Gill was met by another challenge: how to light interiors that could be neither lit from the outside nor physically altered. "I'd walk into these wonderful rooms and say, 'Wow, this is going to be beautiful! We can put some lamps outside the window.' Then I'd look out the window and see 200 feet straight down to a moat! Beyond the moat was a huge wall surrounding the castle, and on the other side of the wall was a sheer cliff. There was no way we'd get any lights out there. Muscos? Condors? Forget it. We had to find another way."

One of Gill's inspired solutions came into play during a banquet scene featuring more than 100 extras seated at two long tables in a large hall. The scene was designed to have a candlelit feel, and the director wanted to cover the master with a 16mm lens -- revealing literally every inch of the room. "All of these castles are museums now, which means you cannot touch anything," Gill says. "You cannot screw anything into the walls, you cannot hang anything on ledges, you cannot put up wall spreaders, and it's almost impossible to bring any large gear into the room because the only access is an extremely narrow stairway.

"I was looking at this banquet scene with 150 people sitting at these long tables, and I didn't know what to do. The only way to get a candlelit feel was to light from the table. We placed a pair of candles between every other person on the table, and I said to production designer Michael Joy, 'Please buy cheap wood for the tabletops, because I'm going to make holes through them.' We drilled holes and inserted these little 200-watt bulbs through the bottom of the table so they would stick up and light the actors sitting in front of them, and we hooked them all up on a dimmer. I was trying to hide each of the bulbs with these round loaves of bread the art department had put in front of each person at the table, and Michael came up with the idea of cutting a wedge out of the bread and slipping it around the bulbs, which worked wonderfully! We could twist a loaf around to dial in the right amount of bounce off the bread to the actor's face. We called it the Bread Light!"

Gill said the Steadicam and 360-degree work required on the shoot were especially difficult to complete in such an unusual location. "Those types of shots are always tough to pull off, but they're even tougher when you really have no place to hide lights," he says. "I've found two great methods for working that way. One is that I'm always right beside the camera with a little bounce card of some sort to kick some light into the actor's face while we're moving. At other times, I'll be beside the camera with a battery-operated Kino Flo, a burning torch, or a rig I call the dynamite light, which consists of about 12 candles taped together like a pack of dynamite. I would position those right

outside the frame to get a little warmth on the [actors'] faces or a little kick in their eyes. I also had guys strategically hidden throughout the path of the camera move with little Arri Pocket Pars and bounce boards. As the camera came near them, they would dial in their fill and follow the camera along until we reached the next guy hidden around the corner. It was really like a lighting ballet when it all worked well.

"The second thing I found out is that a remote-control iris can be a lifesaver. I would say to the assistant, 'When you get here, bring it down to 4, and then when you get there, bring it back to 2.' You have to be able to do that, especially with 360-degree shots, in order to keep everything looking good. That way, you're not forcing yourself into a corner with a particular stop; [you're] allowing things to be a bit more flexible."

Joan of Arc was photographed with the Arriflex 535A camera and Arri Variable Prime lenses on Eastman Kodak's Vision 250D 5246 and 500T 5279 stocks, composed for 1.78:1 within the standard academy frame.

— Jay Holben

Bing Sokolsky, ASC

Mind Prey

ASC member Bing Sokolsky's professional philosophy can be summed up in three words: "Never stop experimenting." That outlook has served him well, bringing him five ASC Award nominations in the past seven years. He was honored this year for the television movie *Mind Prey*, which was directed by his frequent collaborator D.J. Caruso. (The two have also worked together on episodic television and the TV movie *Black Cat Run*.) Sokolsky's previous ASC Award nominations were for *Oliver Twist*, the TV series *High Incident* and two

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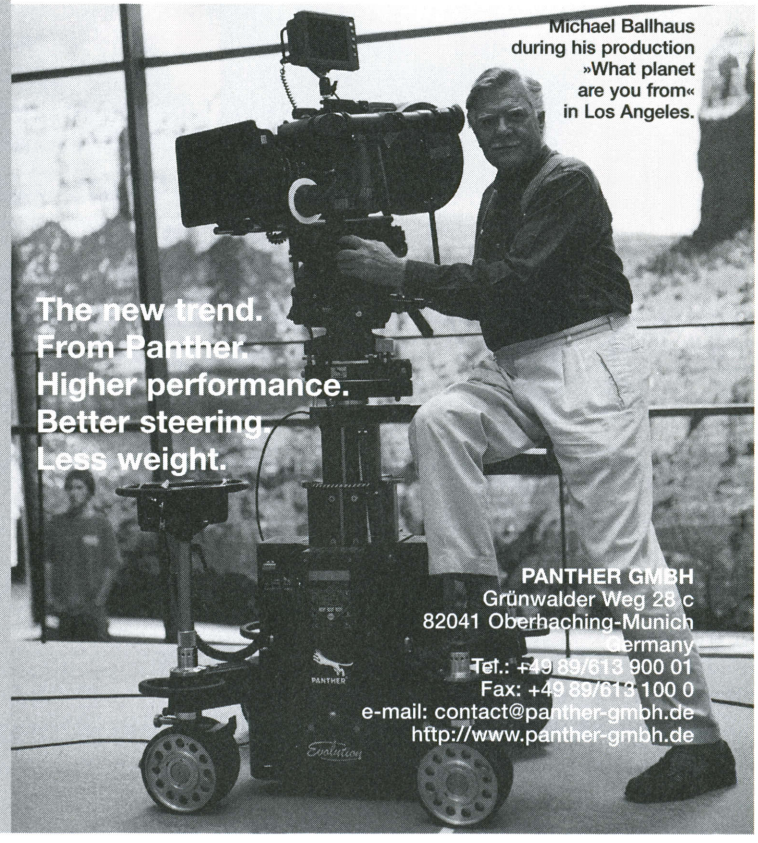
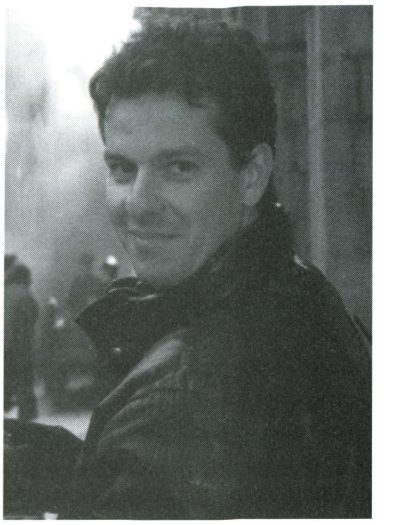


episodes of *NYPD Blue*.

Mind Prey is a grisly thriller about a police detective (Eriq La Salle) on the trail of a psychotic killer who has imprisoned a woman and her two daughters in a makeshift dungeon. Cop and villain are both computer-savvy — the detective moonlights as a software developer — and their cat-and-mouse game is played out in part on the Internet.

Sokolsky readily volunteers that he patterned the movie's dark, desaturated look after David Fincher's 1994 thriller *Seven*, which was was shot by Darius Khondji, ASC, AFC (see *AC* Oct. '95). "I like to give credit where credit is due," he says with a laugh. Another key influence was the Dutch painter Vermeer. The son of fashion photographer-turned-commercial director and cameraman Melvin Sokolsky, the cinematographer grew up going to art museums in his native New York City, and he says he has always drawn inspiration for his work from classical artists. He says Vermeer's use of hard light and monochromatic sepias supported the claustrophobic, film-noir mood that he and Caruso sought to create for *Mind Prey*.

The traditional Sokolsky look is a combination of hard and soft light. On tight TV schedules, he likes to shoot the master with hard light because it's quicker and more efficient. For close-ups, he switches into a soft-light mode. "I like a lot of back crosslight," he notes. "If I'm going to silhouette people, it will be all backlight, and you won't see any features on their faces. You get a feel for who or what is there, but you don't really see it. Seeing all the gore is not nearly as suspenseful or powerful as [getting] the impression of what's going on. Jordan Cronenweth [ASC] was one of my



mentors, and he taught me that it's not what you light; it's what you *don't* light."

One of Sokolsky's favorite lighting tools is the Leonetti Master Light, made by Sun Ray. He praises the 1K Par lights for their small size and versatility. "The unique part of

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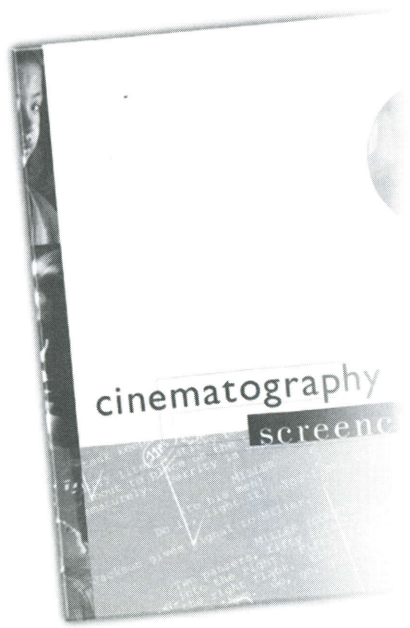


the system is that it has a special transformer that allows you to step the lights up or down. When you put more voltage in these lights, they get brighter, but their Kelvin temperature doesn't change. They're very powerful tools — small and fast to work with. Instead of using one big HMI, you can put four to six of the Master Lights in a Condor and brush-stroke the areas of the background you want viewers to see, while letting the other areas fall off into black."

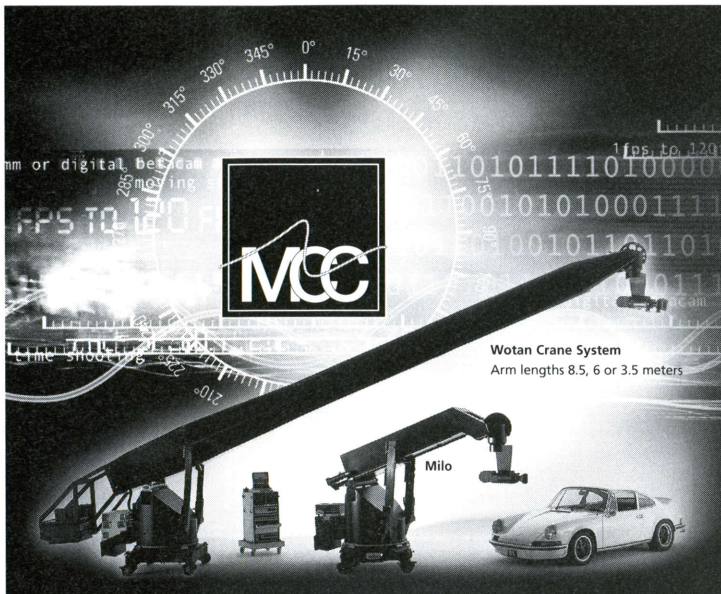
Mind Prey's script jumped around a lot between interiors and wide exteriors, and Sokolsky found himself hard-lighting the former situations and using soft lighting (or a natural, overcast light) for the latter. To make the two looks meld, he would crush the blacks and let the highlights burn a bit more than usual. Because he planned to drain so much of the color during the telecine process, Sokolsky wanted a good, thick negative. Although he normally favors Kodak's Vision 500T 5279 stock, he instead employed Kodak's EXR 5248 and 5298 emulsions, citing cost as the prime consideration.

The movie looked great on the small screen, but Sokolsky notes that it is even more creepily effective on the big screen. He struck a release print using the same CCE bleach-bypass process that Fincher and Khondji used on *Seven*. In addition to stripping away the color and creating richer blacks, the process increases grain structure in the highlighted areas. He notes that "the highlighted areas actually blossom a bit more, and you get this kind of silvery, hazy, old-fashioned look, which is a cool effect."

Another interesting visual trick grew out of the story's computer subplot. In one scene, the villain, Titus, is sitting at the monitor with the images from the screen reflecting in his face. Sokolsky wanted a stronger, more colorful reflection than was possible with normal lighting, so he had a small projector built and actually projected the images onto Titus's face, in effect using the projector as the light source on the actor's face. "We enhanced the effect threefold," he recalls.

Sokolsky, whose first TV movie was the well-received *Doing Time on Maple Drive*, began working with his father when he was just 9 years old. Chuck Minsky taught him how to load his first magazine, and in addition to Cronenweth, he cites ASC members Allen Daviau, Steven Goldblatt, John Toll, Steven Poster, Conrad Hall, Robbie Greenberg and Matt Leonetti as his mentors.

— Jean Oppenheimer



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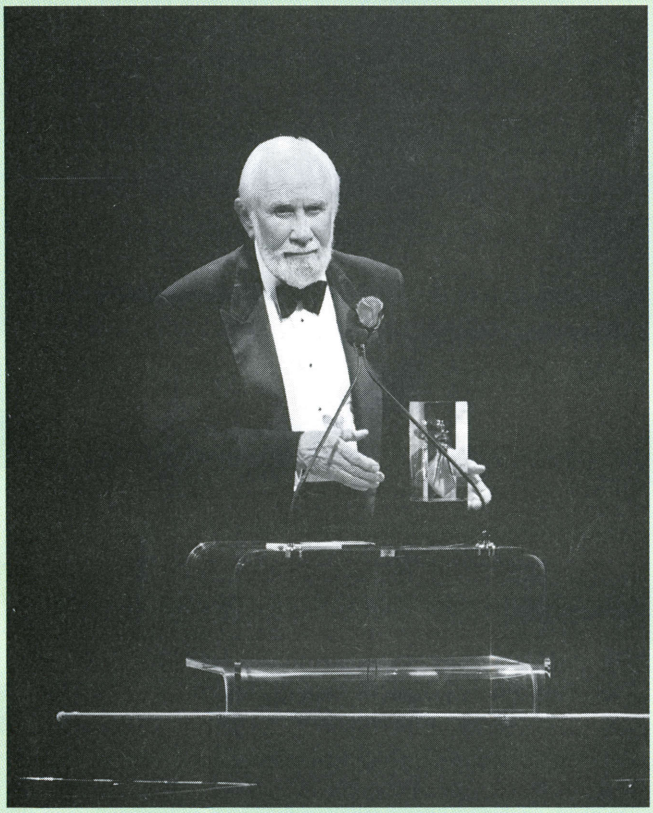

In celebration of cinematography's finest achievements of 1999, the 14th Annual ASC Outstanding Achievement Awards took place on February 20 at the Century Plaza Hotel in Los Angeles. Here is a photographic account of that auspicious evening, as well as coverage of the Nominee's Dinner and Open House that took place in the preceding days at the ASC Clubhouse in Hollywood.

Contributing photographers:
Jeff Granberry, Tory Kooyman, Jay Holben,
Chris Pizzello and Christopher Probst

ASC Awards Committee Chairmen Bud Stone (left) and Owen Roizman (far right) flank (1) Jonathan Freeman; (2) Robert McLachlan, CSC; (3) Thomas Del Ruth, ASC; (4) Marcella Spinotti (accepting a plaque for her husband, Dante Spinotti, ASC, AIC); (5) Robert Richardson, ASC; (6) Conrad Hall, ASC; and (7) Emmanuel Lubezki, ASC. (8) Eastman Kodak's Brian Spruill chats with Robert Richardson, ASC and his wife, Monona. (9) Former *AC* editor David Heuring, Eastman Kodak's Eric Rodli, Debra Peters, John Peters and *AC* art director Martha Winterhalter at the Nominees' Dinner. (10) Conrad Hall, ASC, Thomas Del Ruth, ASC and Patty Del Ruth.

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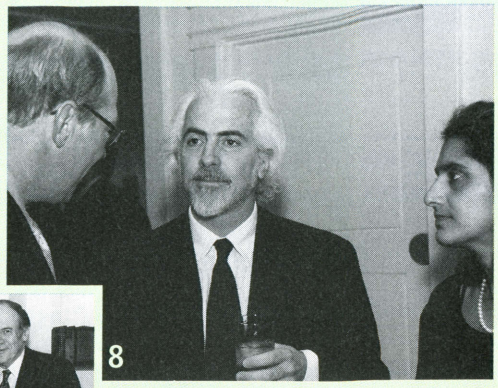
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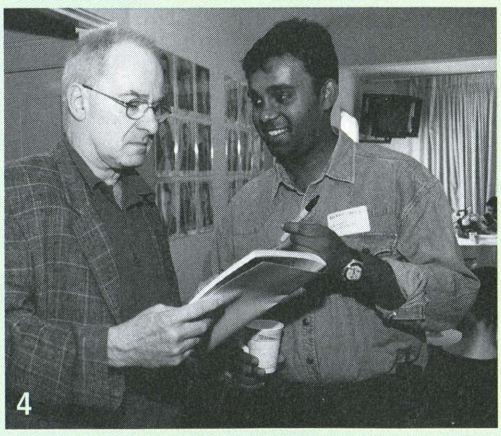
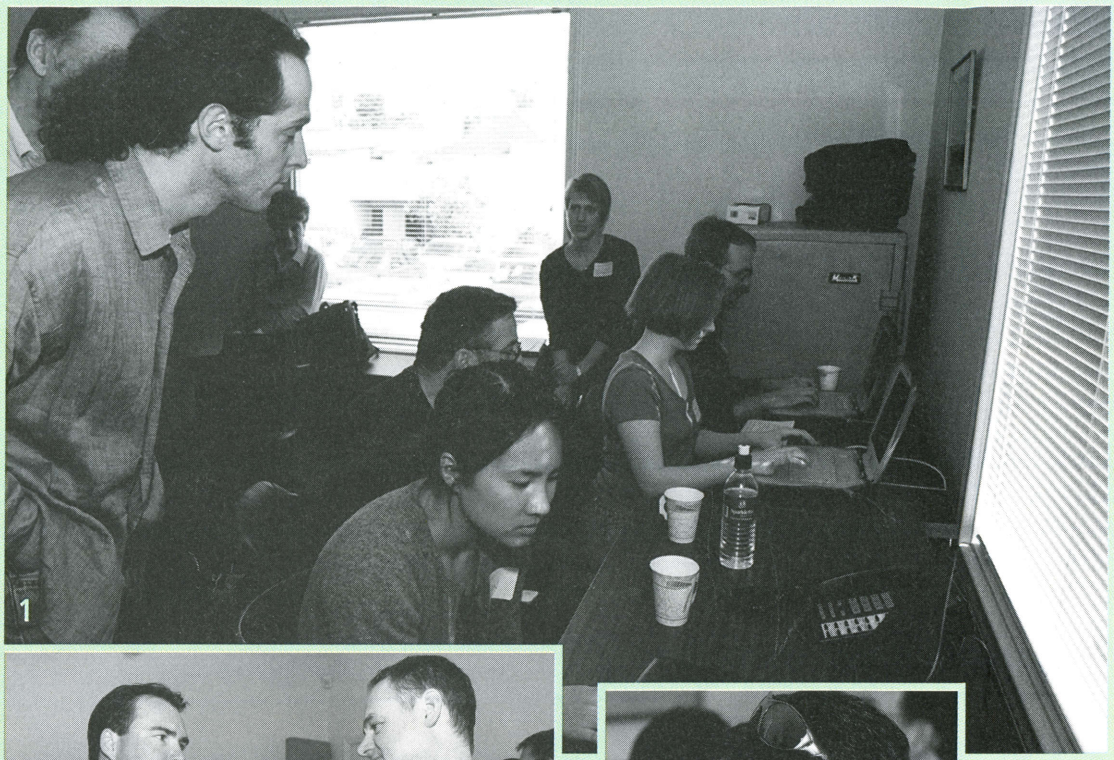
(1) Eastman Kodak's Brian Spruill addresses guests at the Nominees' Dinner; (2) Cinematography fans gather at the ASC Open House; (3) Pierre Gill chats over the Internet with the help of Creative Planet's Erin Lauten; (4) Dante Spinotti, ASC, AIC chats with a guest at the Open House.



(1) Emmanuel Lubezki, ASC chats over the Internet with the help of Creative Planet's An Tran; (2) Bill Roe and Robert McLachlan, CSC trade *X-Files* anecdotes; (3) Bing Sokolsky, ASC; (4) Conrad Hall, William A. Fraker, ASC and Guy Green, BSC enjoy lunch at the Open House; (5) Allen Daviau, ASC says hello to Emmanuel Lubezki, ASC; (6) Laszlo Kovacs, ASC greets Student Award winners Andrew Huebscher and Christopher Popp.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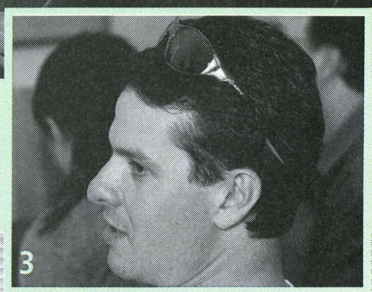
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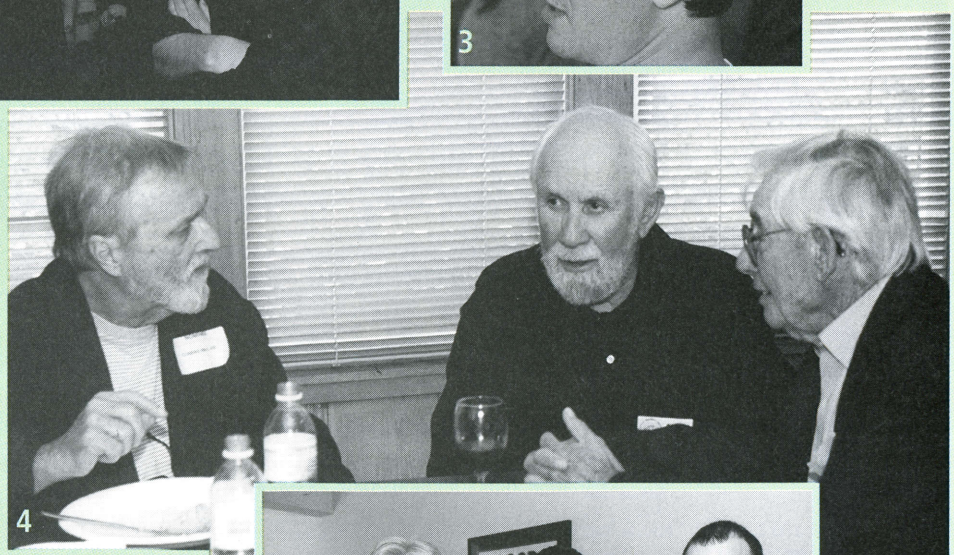
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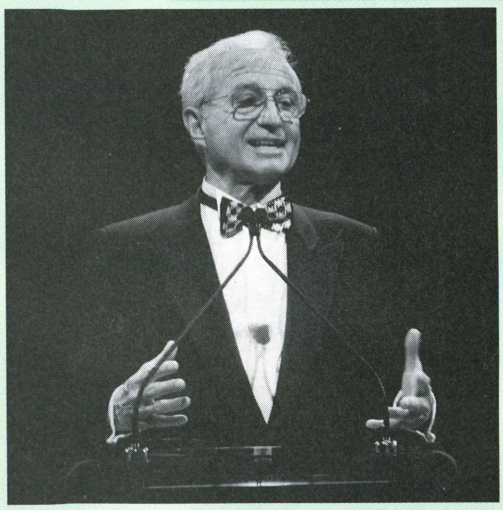
OPENING ADDRESS BY ASC PRESIDENT VICTOR J. KEMPER

A few of my friends have asked me why I accepted the honor of the ASC presidency for the sixth time. Except that I appear to be a masochist, I did not have an immediate answer. After some thought, I realized that it was to have the pleasure of greeting all of you at the end of a wonderful era in the world's film history — the 20th century, the era that gave birth to the commercial development of the motion-picture industry. My goodness, look at the technical advancements that we as an industry have made just during the 81-year life of the ASC — from hand-cranked-camera silent films to technologically brilliant cameras with video taps and other bells and whistles that are no less than mind-boggling. I think that most of us were fat, happy and complacent and felt that we were at the epitome of where motion-picture advancements could go. We now know how untrue that is.

This untruth is what should drive us, as cinematographers, to become involved in and get thoroughly conversant with the new digital era of the new millennium. Now is the time for us to be certain that we maintain control of the manipulation of the images that we create. Let's stop the prevalent, negative, depressing attitude that the digital world is our enemy and will ruin the industry. Instead, think about the potential that these new tools offer. Think what they can and will do to make our jobs more creative, easier to do, more exciting and, most of all, more beautiful for the audience.



Unfortunately, as with all new developments, a restructuring of businesses and jobs is already happening and will continue as new tools are brought to market. It remains, however, that *images have to be created.* That is why we, the cinematographers of the world, *must continue to be the CREATORS of those images.* It matters little where or how the exhibitions of our creations take place. What matters are the standards of the technical quality of those pictures being shown, either theatrically or on television. It is that high quality that makes me believe that motion-picture negative will remain the capture medium of choice for the near future. I am not complacent. New developments can spring up like a crocus in the spring to capture and entrance us with their beauty.

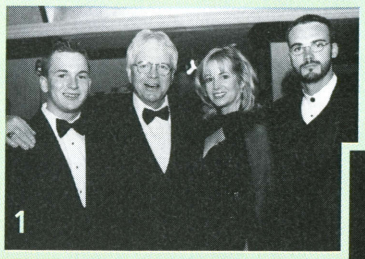
Digital-projection media are a reality and improving dramatically almost daily. On the other hand, traditional or digital video — and any other live-action image captures — do not yet produce a contrast ratio, picture resolution, or soft, attractive and beautiful images that can be created with motion-picture negative. Nevertheless, those new, hybrid, beautiful crocuses continue to bloom each spring.

On-set video and digital "aids to the cinematographer" are emerging and proliferating at a rapid rate. One of my biggest concerns, when the use of video taps began, was being second-guessed by members of the production crew. In fact, I instructed my assistants to keep the video cable unplugged until I was finished with my lighting and have done so ever since. Some may feel that this is my ego at work. Perhaps it is, to some extent. My drive to do this is to avoid interruption in the lighting and setup for the scene, without the second-guessers in the video arcade becoming offstage cinematographers. We *cannot allow ourselves* to be second-guessed by members of the production crew. Let us be sure that these so-called "aids to the cinematographer" remain just that — aids to the cinematographer, not a plaything for PAs and ADs. Let's enter the new film millennium with an attitude that we can turn any new tools to our advantage.

Ivy Baker Priest said, "The world is round, and the place which may seem like the end may also be only the beginning." The year 2000 will be a double landmark for the ASC. We will formally announce our new museum of motion-picture cameras and accessories, and we will begin a building campaign that will renovate our wonderful, existing building to exclusively house our museum collection and administrative offices. Around it, we plan new structures to provide for our magazine and book publications, meeting places and dining areas. This will be augmented by underground parking and — with your help, if our fundraising goes well — a 250- to 280-seat theater. We'll be seeing all of you about this really soon.

Now, let's honor our cinematographers of the new millennium and our guests of the old one!

(1) Tom and Patty Del Ruth with their sons, Matthew and Sean; (2) John Schwartzman, ASC shares a laugh with Emmanuel Lubezki, ASC; (3) Theo and Robert Primes, ASC; (4) Warren Beatty chats about cinema with *AC* executive editor Stephen Pizzello; (5) Bud and Judy Stone; (6) cinematographer and ASC Museum Curator Steve Gainer; (7) Technicolor's Rob Hummel and AC publisher Jim McCullaugh enjoy the festivities; (8) Oswald Morris, BSC and William A. Fraker, ASC; (9) Conrad Hall, ASC and William A. Fraker, ASC; (10) James Ellis and Roger Deakins, ASC, BSC; (11) John Toll, ASC, Lois Toll, Richard Hart and Kathy Hart; (12) Shannon Clairmont, Paulette Irwin, Mark Irwin, ASC and Denny Clairmont; (13) Bud Stone, International Cinematographers Guild (ICG) National President George Spiro Dibie, ASC, International President of I.A.T.S.E. Tom Short, William A. Fraker, ASC and ICG National Executive Director Bruce Doring; (14) Debbie Murphy, Mark Murphy, Art Tostado, Chris Tostado, Peggy King Garcia, Ron Garcia, ASC and George Hutchison.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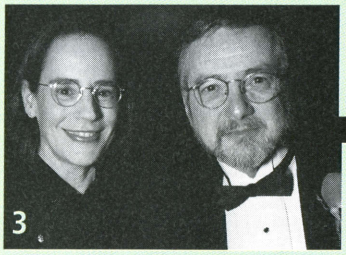
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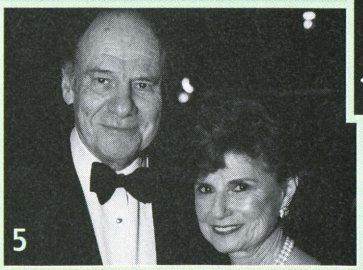
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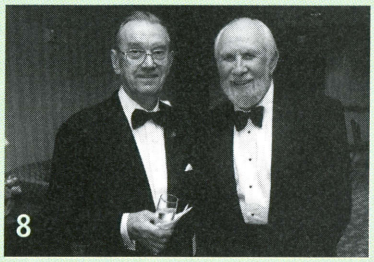
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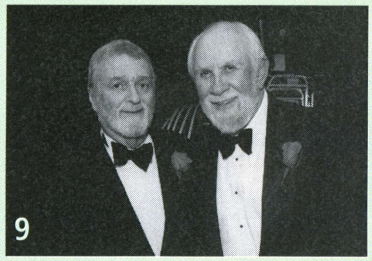
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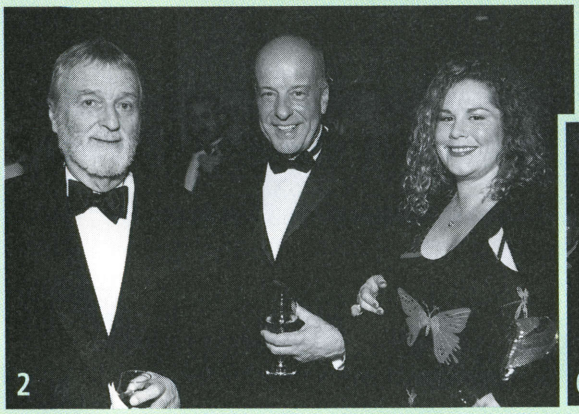

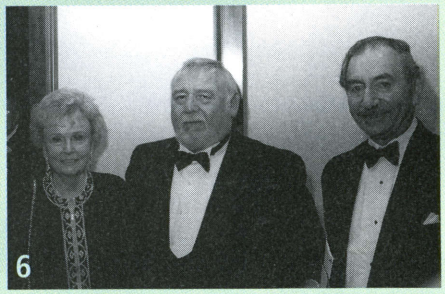

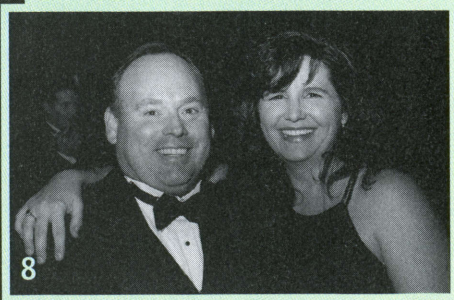

(1) Claire Kemper, ASC President Victor J. Kemper, William A. Fraker, ASC, director William Friedkin and Barry Bedig; (2) Conrad Hall, ASC, Charles Rosher, Jr. and Sharlyn Brooner; (3) Bill Roe (third from right) and his *X-Files* crew; (4) Kate Hall, Virginia Hall and Conrad Hall, ASC with Françoise and Douglas Kirkland; (5) *AC* circulation director Saul Molina and Steve Kohler; (6) Betty Jo Lathrop, Gerald Perry Finnerman, ASC and Sol Negrin, ASC; (7) Jonathan Freeman and his lovely date; (8) Kevin Stolpe and Christine Trice.

(1) Vilmos Zsigmond, ASC and his wife, Susan; (2) cinematographer Robert Brinkmann with *American Beauty* star Mena Suvari; (3) Conrad Hall, ASC with *American Beauty* star and Academy Award nominee Annette Bening; (4) actress Holly Hunter, who presented the ASC Award for feature films, poses for photographers; (5) ASC President Victor J. Kemper makes his opening remarks; (6) actor Stuart Whitman with Guy Green, BSC and Ronald Neame, BSC; (7) Joy Shefter ties the knot for her husband, ASC Awards announcer Milt Shefter; (8) Fred Godfrey is flanked by Chris and Isidore Mankofsky, ASC; (9) Susan Williams and her dapper date, ASC Vice President Steven Poster.

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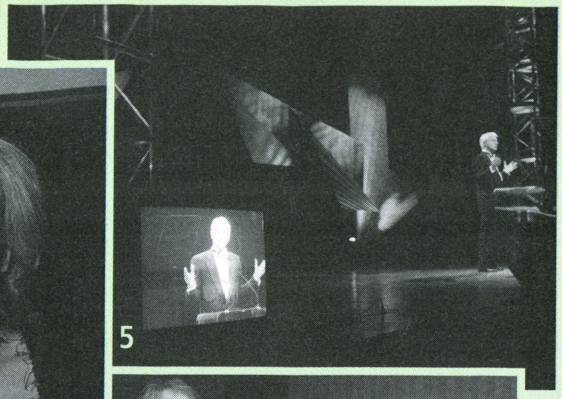
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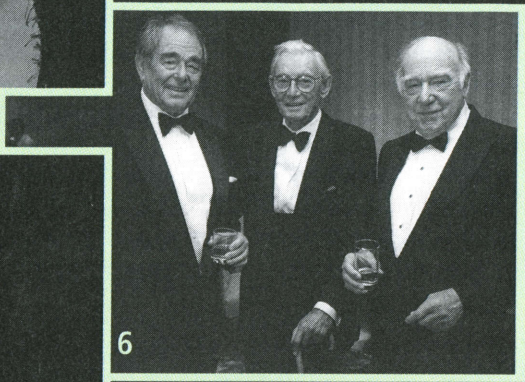
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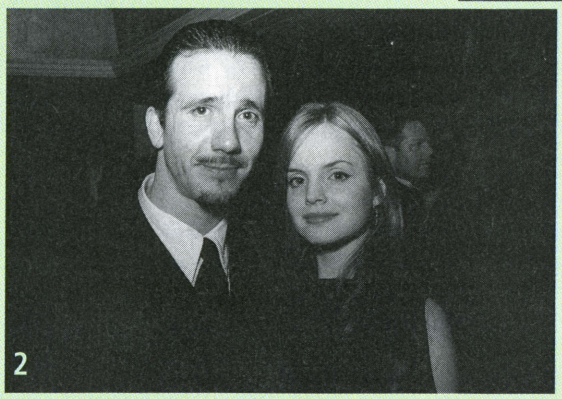
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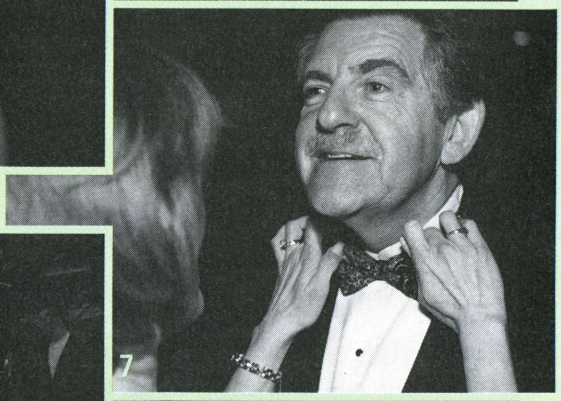
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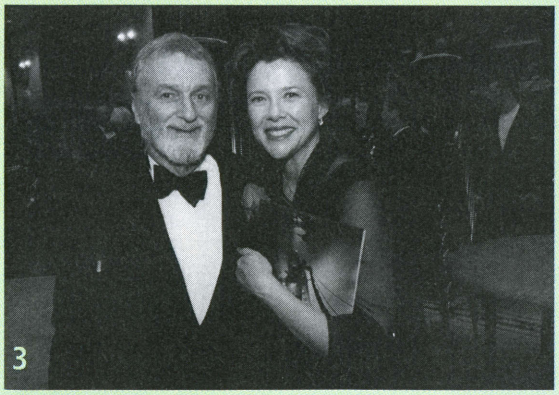
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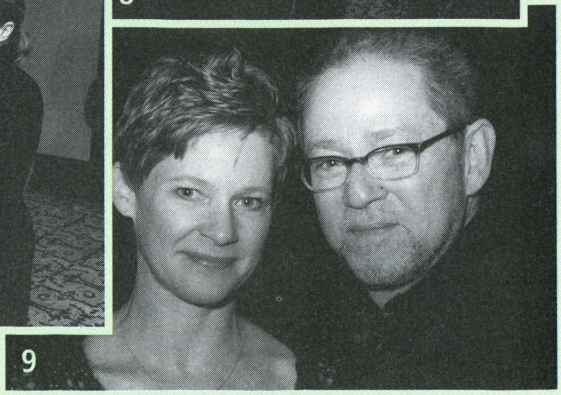
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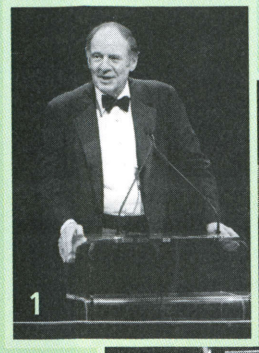
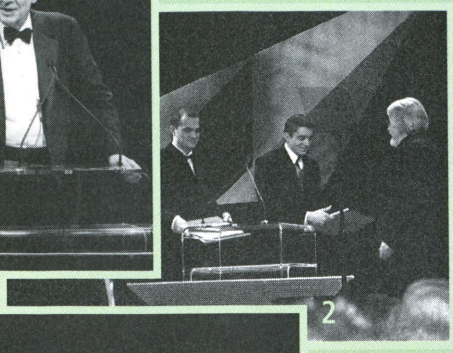
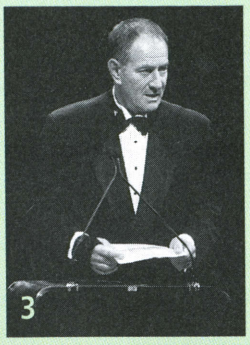
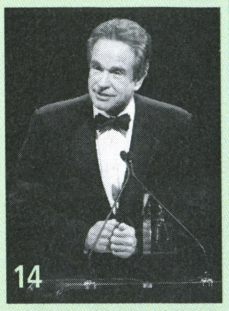
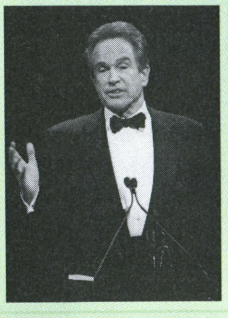
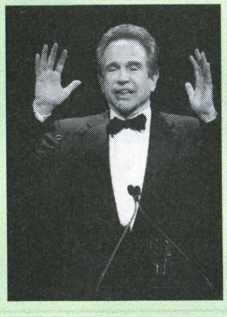


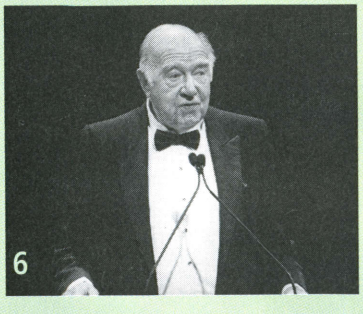


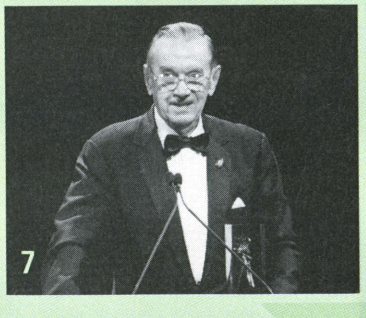


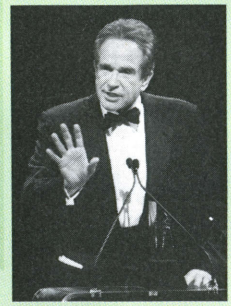


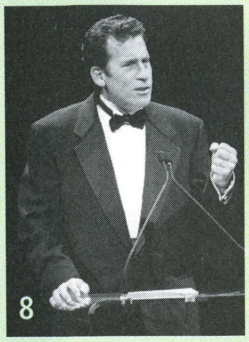


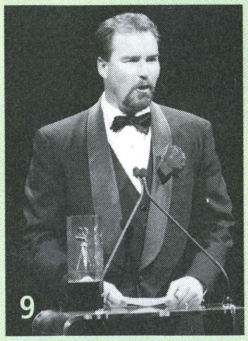


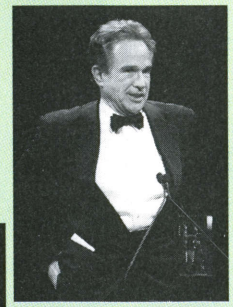


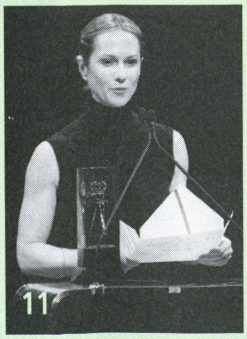


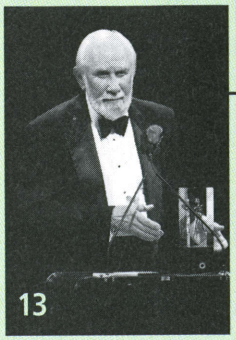


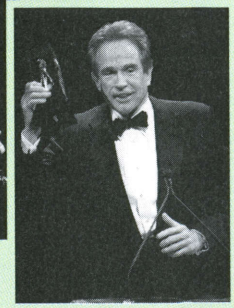












A lineup of luminaries takes to the podium: (1) ASC Awards Chairman Bud Stone; (2) Laszlo Kovacs, ASC (far right) with Student Award winners Christopher Popp and Andrew Huebscher; (3) Awards Co-Chairman Owen Roizman, ASC; (4) Guy Green, BSC and actor Karl Malden; (5) actor Dennis Weaver and Lisa Rich (accepting the MOW/Pilot/Miniseries award for Robbie Greenberg, ASC); (6) Ronald Neame, BSC; (7) Oswald Morris, BSC, who demonstrated his wry British wit; (8) actor Paul Michael Glaser; (9) Bill Roe; (10) director William Friedkin; (11) actress Holly Hunter; (12) Conrad Hall, ASC; (13) William A. Fraker, ASC; (14-19) Presidents Award recipient Warren Beatty, who regaled the crowd with amusing anecdotes.

Indelible Compressions

DVD technology is driving efforts to restore and preserve classic films.

by Bob Fisher

In 1913, legendary stage actress Sarah Bernhardt was accosted by a newspaper critic, who demanded to know why she was wasting her valuable time performing in films. Bernhardt replied that she made movies for posterity. If she only knew.

According to Michael Friend, archivist for the Academy of Motion Picture Arts and Sciences, at least half of the films made in the United States during the industry's first 50 years are probably irrevocably lost. One of the reasons for this is that until the 1950s, all motion-picture emulsion was coated on a highly flammable nitrate base. Films occasionally caught fire, but much more often, the nitrate base gradually dissolved into a jelly-like mass. (Kodak scientists invented a safety base during the 1920s, but it took the industry about 30 years to accept it.)

Color negative film came into vogue during the 1950s, and by the 1970s, Martin Scorsese and other filmmakers were sounding the alarm, pointing out that dyes in color negatives, intermediate and print films were fading and thus destroying the heritage they were creating. Color film will resist fading for as long as 100 years if it is properly stored in a cool, dry environment, but many content owners simply never bother with this safeguard. Archivists say a better solution is to make yellow, cyan and magenta (YCM) black-and-white separations, using the original negative as a master. Each of these black-and-white films contains a record of the density of the three primary colors. If they are put together on a contact printer, one can make a faithful duplicate negative. Beverly Wood, vice president of technical services and client relations for Deluxe Laboratories, estimates that it costs $40,000-$50,000 to make black-and-white separations for a feature-length film (depending on its length). That's less than 1/10 of one percent of the average budget for a studio film.

The good news is that the surging DVD home market and the anticipated demand for HDTV content are driving a renaissance in film restoration, according to Rami Mina, vice president and general manager of the Technicolor Film Restoration Company in Los Angeles. The bad news is that if cinematographers aren't involved in the restoration process, new audiences are not likely to experience those films the way they were meant to be seen.

Technicolor recently worked on the restoration of *Oh, God!*, a 1977 comedy directed by Carl Reiner and photographed by ASC President Victor J. Kemper. The film stars John Denver as an assistant manager of a grocery store who has an encounter with God (played by George Burns). One key scene, in which Denver's character meets God for the first

Images courtesy of Anchor Bay Entertainment.

time, is staged in an all-white room early in the film. Mina recalls, "We showed Victor how we were able to bring out all the details on the original negative; you could even see details in the street outside the only window in the room. Victor was horrified when we showed him our original restoration of that scene! He explained that the white set and bright light were intended to wash out all other details. He wanted the background as white as possible, because that gives the scene an ethereal feeling, which makes the concept much more believable."

In another early scene, staged

in a grocery store, Reiner wanted to establish that Denver's character is no one special. (As God explains, "You are better than some and worse than others.") Kemper washed the scene in greenish light motivated by overhead sources to visually punctuate the idea that the character is an ordinary person living an unglamorous life. "It's not something the audience sees," Kemper explains. "It is something they feel on a subliminal level, but it helps to establish the character, the mood and a sense of time and place. Chances are, if the cinematographer isn't involved, nuances like this will be missed when films are restored, and future audiences might have a different feeling about the character. That's why we [cinematographers] believe it is important for us to be involved in restoration projects." Sure enough, the color timer balanced the colors in the grocery scene to make it look and feel more beautiful and appealing, like a well-lit 1990s supermarket. It was a pretty picture, but off-base until Kemper provided guidance.

Mina says Warner Bros. provided the original negative of *Oh, God!* and requested a new interpositive that would restore the original colors and correct other damage caused by handling and chemical

"Chances are, if the cinematographer isn't involved, nuances will be missed when films are restored."

— ASC President Victor J. Kemper

deterioration. Technicolor and a number of other labs specialize in photochemical restoration. The first stage of restoration is the inspection of the negative, which has to be in good enough shape to withstand being run through a printer. Mina says Technicolor prefers working with the original negative whenever possible to minimize generational losses. The negative is inspected by a lab technician, who evaluates the general condition of the film, repairs any tears and rips, and reinforces weak splices to ensure that the negative is robust enough to be printed. The negative is also checked for the presence of lacquers, which might have been coated on the negative to cover scratches before the introduction of wet-gate printing. "The problem occurs if a lacquer-coated negative is re-washed or printed on a wet-gate printer," Mina explains. "The lacquer may partially dissolve, causing a mess, so it must be removed before further procedures are attempted."

After the inspection, the negative from *Oh, God!* was printed using the supplied timing lights, and then evaluated for dye fade. "The yellow, magenta and cyan records had faded to various degrees, but not severely enough to require specialized dye-restoration techniques," Mina recalls. "In this case, we were able to compensate for dye fade by reducing the red, green or blue exposure of the negative." The timers make visual judgments of the amount of light needed to correct the scene, and rely on their experience to match the scene-to-scene look of the film.

After timing, an answer print is made that reflects the condition of the restored negative, which is essentially free of physical defects and boasts corrected dye fade. Once the answer print is approved by the customer, Mina says, a new element is printed using the same lights that were used to make the answer print. The new element can be an interpositive, a new set of YCM separations, or both.

Mina says that Technicolor prefers the photochemical process for restoration because of the depth of color and contrast information on the negative. He's not convinced that even a 4K scan captures all of that image information during film-to-digital conversion, especially nuances in colors, textures and contrast. However, he concedes there are certain types of fixes — including the repair of scratches, tears and anomalies ingrained in the negative, such as fog — that can be handled more effectively in a digital suite. "When we were working on the restoration of *Rear Window* for Universal Studios, there was a very important scene in which Grace Kelly kissed Jimmy Stewart," he recalls. "That piece of negative had ingrained dirt, scratches and other damage that we couldn't fix as effectively photo-

Opposite: Michael Myers wreaks vengeance in the 1978 chiller *Halloween*. The landmark horror film was restored for DVD release last year. This page: Laurie (Jamie Lee Curtis) prepares to defend herself with a knitting needle. "There are very deliberate moments when this film is all about light and shadows," says cinematographer Dean R. Cundey, ASC. The DVD features both a pan-and-scan and an anamorphic version of the film, and Cundey says he is particularly pleased with the latter.

Indelible Compressions

Above: This scene from *Easy Rider* reveals just one artifact that the team at Sony Pictures Entertainment had to digitally erase during its recent restoration of the 1969 classic. The corrected version is pictured at right. Cinematographer Laszlo Kovacs, ASC, worked closely with Sony to maintain the visual balances he intended when he shot the film.

chemically. The studio sent the negative to Cinesite in Los Angeles. They scanned the negative into digital format, erased and replaced the dirt, scratches and other physical damage, and recorded the digital files onto Kodak color intermediate, which intercut seamlessly with the footage on both sides of the scene."

Cinesite restoration specialist Jerry Pooler spent the early part of his career as an optical camera operator at CFI Labs in Los Angeles, and he brought that aesthetic to Cinesite when the facility opened in 1992. Pooler is currently working on a restoration project for which the original negative on a panning shot was smudged. He explains that the smudge was apparently caused by a camera component behind the lens. "We digitized those frames, and what we are trying to do is eliminate the smudging by matching the density of contrast and colors to the rest of the sky," he says. "That's an example of a technical problem that had no solution when the film was originally released. One of the things happening in restoration is that the bar has been raised; people have higher expectations."

Under the guidance of Grover Crisp, vice president of asset management and film restoration, Sony Pictures Entertainment has been leading the way in film restoration, most recently with the Columbia Pictures classics *Easy Rider* (1969) and *Shampoo* (1975), both photographed by Laszlo Kovacs, ASC. Crisp says, "Our goal is to restore and preserve everything in our feature- and television-film library, which could take 10 to 15 years. It makes good business sense, and we believe it is important from historical and aesthetic perspectives."

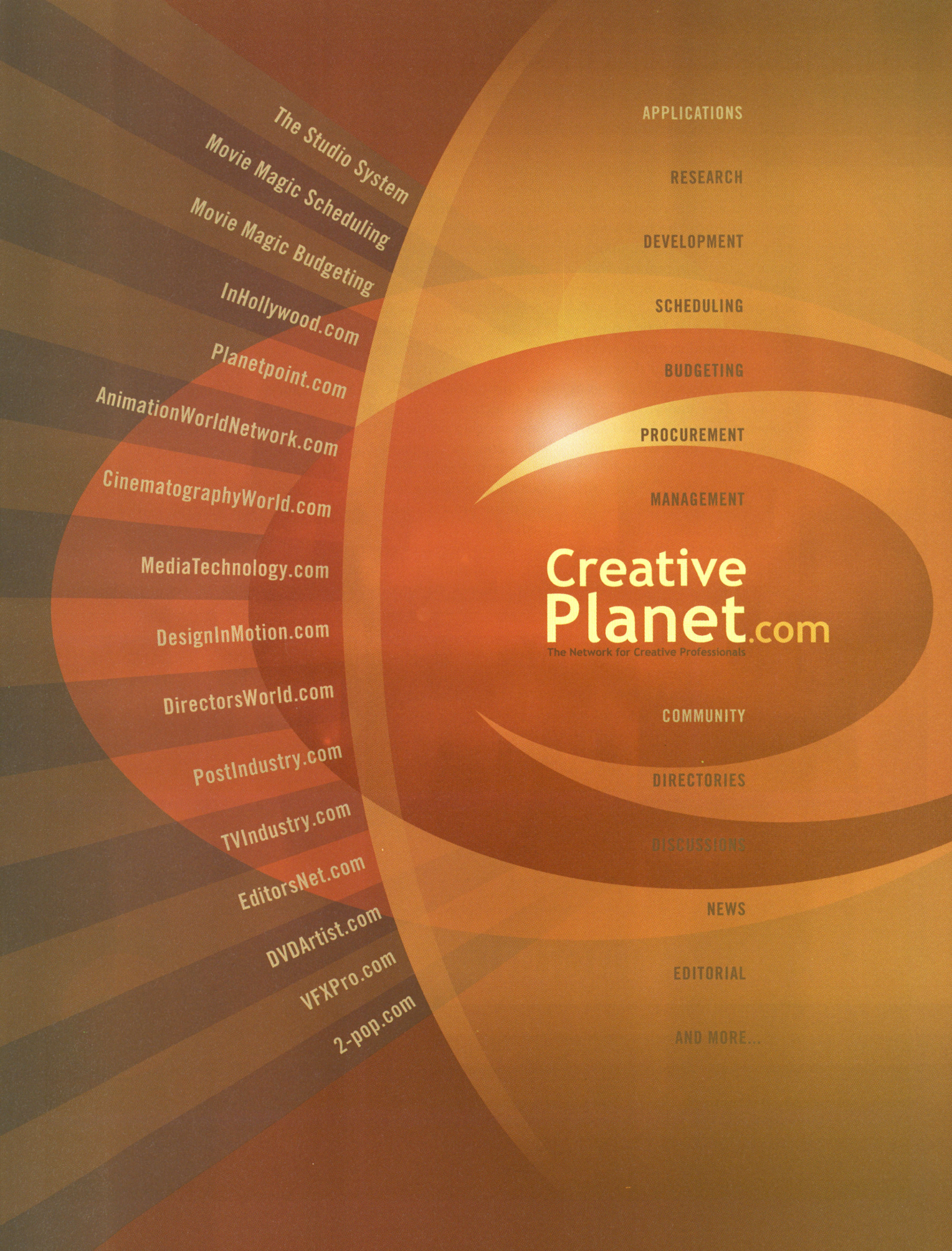
He adds that the company's restoration projects are prioritized according to need. "Most are done photochemically, and we resort to digital techniques when we have problems that cannot be addressed any other way. There are many digital options right now, including the technologies developed at the Sony High Definition [HD] Center, some of which we used on *Easy Rider*. The goal is to restore and preserve these films so they can be re-released in any format — film or DVD — and to cable and satellite movie channels. However, we also want these films to be shown the way they were intended to be shown, which means projected theatrically."

Crisp says Sony Pictures began working with cinematographers on its film restorations a few years ago, when Kovacs needed a print of *Easy Rider* for the Camerimage Festival in Torun, Poland. "We had a print, but it wasn't in very good shape," Crisp recalls. "We were just beginning to restore the film, and we showed him what we had done. There were places where our timing was almost the opposite of his intentions. We wanted to pull as much detail as possible into certain shots, but from Laszlo's perspective, those were shots where he and the director didn't intend for the audience to see the detail. We corrected all of those areas with his help, and that started us on this program of working closely with cinematographers."

In addition to *Easy Rider* and *Shampoo*, Sony involved Kovacs in the restoration of *The King of Marvin Gardens* (1972) and *Five Easy Pieces* (1970); the studio also asked Vilmos Zsigmond, ASC, for guidance on the restoration of *Obsession* (1976), and Conrad Hall, ASC, for guidance on *The Professionals* (1966) and *In Cold Blood* (1967). The company recently worked with Jack Cardiff, BSC, on *A Matter of Life and Death*. "It's gratifying when the cinematographers give us their guidance," says Crisp. "I have never had one of them say he wasn't interested."

Sometimes the restoration team has to make its own choices. Crisp explains, "When we were restoring Frank Capra's *Matinee Idol* with the Academy Film Archive a few years ago, there were several

Images courtesy of Sony Pictures Entertainment.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Indelible Compressions

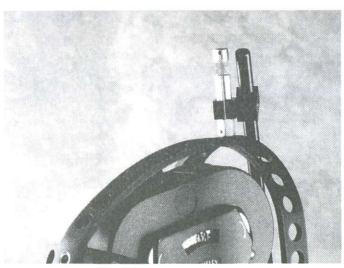
times when we backed away from digital processing because it would create an artifact. We have to make the choice to leave in damage if the damage proves less egregious than the digital artifact. We need to be careful and learn how and when to apply these new technologies, because the filmmakers didn't intend to leave either film- or digital-related artifacts."

The other aesthetic issue that arises as a byproduct of film restoration projects is the digital compression of DVD releases. This brings us to Dean R. Cundey, ASC, and *Halloween*. The low-budget 1978 horror film was the first commercial success for both Cundey and director John Carpenter. Film critic Roger Ebert called the film "an absolutely merciless thriller. . . It's a visceral experience. We aren't seeing the movie — we are having it happen to us."

The *Halloween* DVD was created at Crest National, a Los Angeles-based film lab that has segued into the DVD-authoring business. The film is 93 minutes long, comprising approximately 134,000 frames. Each frame scanned out at about 44 megabytes. Because there is no practical way to pack that much visual information onto a DVD, the data must be compressed. The theory is simple: because much of a film's image information is redundant from frame to frame, you only have to encode information that changes. The idea is that a computer chip on the DVD player will de-code the compressed images and put the redundant elements back into the picture. The problem is, this process isn't always predictable.

Bryan Rusenko, vice president and special-projects engineer for Crest National, explains that there are industry-wide standards (MPEG and MPEG 2) for "compression engines" that define how image data is compressed and reassembled, but those standards can be implemented a variety of ways. "It's like speaking a language," Rusenko observes. "Some people speak it very roughly, at a minimal level of intelligibility. Others speak the same language in a lyrical way. The compression languages everyone speaks are either MPEG or MPEG 2, but the quality of the images can range from movie-like to something that comes a lot closer to VHS picture quality. The compression ratio depends on the length of the movie, the other information you want to put on the DVD, and the type of disk being used."

A standard compression ratio can be used for the entire film, or the amount of compression can



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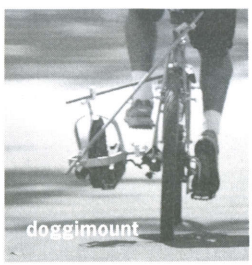

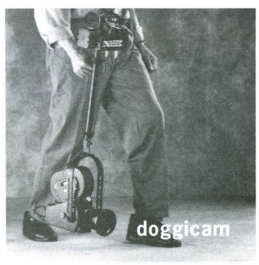

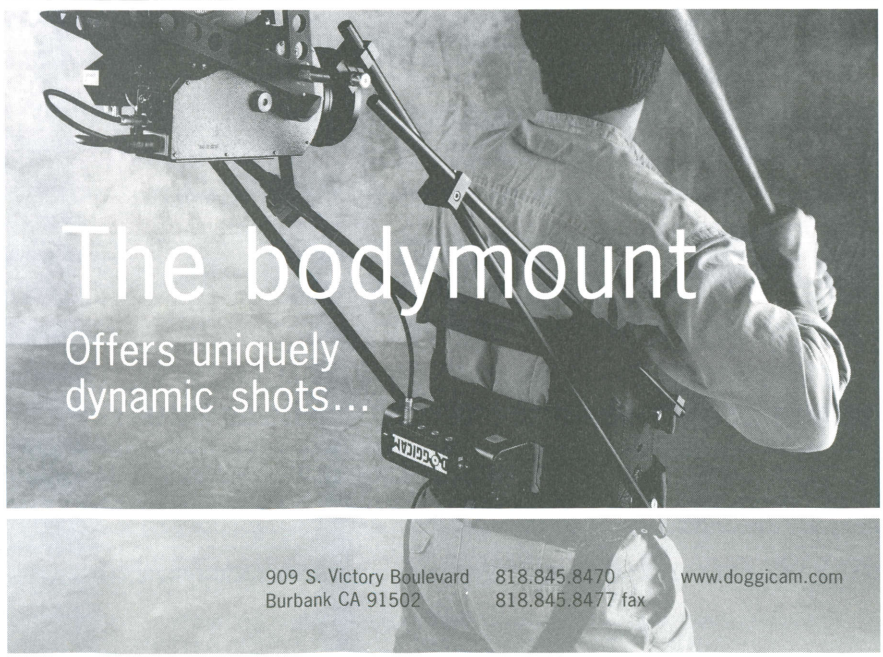

vary based on the content of the scene. The compressionist who worked on *Halloween* is a former film editor who, Rusenko says, "has an eye for colors and tones and recognizes unacceptable artifacts created by the system. You can learn the technical side, but you can't teach some film aesthetics." There are two versions of *Halloween* published on the same disk. The version on one side is panned and scanned for a 4:3 aspect ratio. The other version is in the film's original anamorphic format. This appears in letterboxed form on 4:3 screens.

The letterboxed version is true to Cundey and Carpenter's original compositions, which are vital in evoking the visceral responses praised by Ebert. Cundey observes that there are also fewer compression artifacts, such as blocking in shadows and smearing, in the letterboxed version. He also notes that the images are a bit sharper because there is more discrete information than there is in the panned-and-scanned version. "When you pan and scan, you are blowing up part of the frame, so the grain is relatively larger," Rusenko explains. "That can create artifacts when you compress the image."

Cundey adds, "There are very deliberate moments when this film is all about light and shadows. In one scene, Michael Myers is chasing Jamie Lee Curtis. He runs into a hallway where she's cowering in a corner. We wanted to create the impression that as your eye gets used to the darkness, you start to see more details. I had a little light on a dimmer; there was literally no measurable light on the killer's face when he's standing in the dark doorway next to her. We very gradually brought the level of light up, and slowly you start to see him in the shadows. It's very frightening as you realize what you are seeing."

Rusenko says the compressionist "went over and over that scene to make certain the original contrast was preserved. The panned-and-scanned version tends to chop off a lot of the doorway scene, but the letterboxed version clearly shows him standing in the doorway. We wanted a very clean black so the audience wouldn't see anything at first, even if the contrast or brightness level was turned all the way up. This is a good example of where the compressionist can intervene and ensure that the audience experiences the movie the way it was intended to be experienced. That's why you can't totally automate compression: you need someone with an eye for those details who also has the right attitude. A slight tweaking might be all you need to preserve a mood." ■

Watts Up With SoftSun 3.3K?

What's the best new way to light interiors for the ever-popular car chase? Leave it to veteran action cinematographer David Eggby whose credits range from *Mad Max* to the forthcoming *Blue Streak*.

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A Test of Hi-Def

MGM and The Post Group explore high-definition's capabilities during dailies, post work and preview screenings for the feature comedy *Return to Me.*

by Debra Kaufman

Photography by
Chris Helcermanas-Benge

When the lights came up on the AMC theater in La Jolla, California, the 400-member audience was notably enthusiastic about the preview they'd just seen of MGM's *Return to Me*, an engaging dramatic comedy starring David Duchovny and Minnie Driver that opened early last month. In fact, they gave the film the highest preview scores an MGM film had ever gotten. This screening also marked the debut of The Post Group's high-definition (HD) preview process, meaning that the La Jolla audience saw the movie in HD, with HD-created temp titles and opticals.

Coincidence? Bruce Markoe, MGM's newly promoted senior vice president of feature postproduction, thinks not. "I think [the HD technology] made a big difference," says Markoe. "When you preview a work print, the image jumps on every splice; there are hundreds of splices, so the image bounces constantly. You then have the inconsistencies of the temp visual effects and opticals, imbalanced color and black frames. Although a lot of audience [members] may not say they notice it, I believe it does have a negative impact. We didn't have any of those issues with an HD screening."

Playing off of Sony's HDCAM format, MGM used the La Jolla theater's extra porthole to set up the HD projector. They did bring a backup system, reports Markoe, but the previews -- and two dozen HD screenings at the studio's screening rooms in Santa Monica and New York -- went off without a glitch. "I'd like to keep pursuing this," says Markoe. "We don't want to shove it down anyone's throat. My job is to try and help explain to cinematographers and directors how the process works and what the benefits are."

Are HD previews the wave of the future? Is the studios' eagerness for positive previews standing an old system on its head? What guarantees are there for cinematographers that HD dailies and previews are a faithful representation of what they shoot?

The answers to the first two questions seem likely to be "yes." When it comes to the last question – the one of greatest concern to *AC*'s readers — Markoe and The Post Group maintain that they are quite sensitive to cinematographers' misgivings about a system that plays back film dailies in tape format.

Photos courtesy of Metro-Goldwyn-Mayer Pictures, Inc.

The concept for an HD preview system came from The Post Group, which was exploring how the high-resolution tools they'd been acquiring could be used to improve existing processes. According to President Barry Nulman, the preview process immediately stood out as an arena that could be improved. "You make a $30-million film, then bring a work print without main titles or transitions or effects into a movie theater and expect to get [useful] feedback," points out Nulman. "I don't think that's right."

The Post Group's focus on feature films didn't come out of nowhere. The facility's involvement in film dates back to at least 1988, when it adopted nonlinear offline editing for feature films, and grew in 1994, when it created the Digital Film Group to provide digital film effects for feature films. With the advent of HD, The Post Group added a Philips Spirit Datacine, an online HD edit suite with digital effects. The firm's existing Discreet Fire is also capable of high-resolution image manipulation.

The evolution from concept to reality was, according to Markoe and Nulman, of mutual interest from the beginning. Markoe was aware that The Post Group was already providing HD dailies for feature films and MOWs. He was also keeping close tabs on electronic cinema, attending demonstrations by several companies. One Qualcomm demonstration showing side-by-side compressed and uncompressed HD satellite feeds proved that "it didn't degrade the image," says Markoe. "I had exploratory talks with Barry, expressing our requirements, and he said they could make it work for us."

The first step of the process would be HD dailies, which, Nulman notes, is "nothing unique — taking the existing film and moving it to a new format" via the Philips Spirit and DaVinci 2K. What followed the HD dailies *was* new, however. "We gave them a down-converted cassette for offline nonlinear cutting, and then they'd send us, via the Internet, a list for a temp assembly for viewing on location," recalls Nulman. "Meanwhile, we'd be working on temp main titles, temp visual effects or 'pre-visualization' of visual effects and titles treatments. The movie was eventually assembled in HD from the dailies and the list from the cutting room, and we'd add the other elements, which had been created in high resolution."

Opposite: Bob Rueland (David Duchovny), a recently widowed architect, and Grace Briggs (Minnie Driver), a waitress with a secret, fall in love in *Return to Me*, the directorial debut of actress Bonnie Hunt (who also co-stars and co-wrote the screenplay). This page: Grace makes a hasty exit upon learning that an unsuspecting Bob plays a role in her secret. The romantic comedy was filmed on location in Chicago and Rome, and dailies were viewed on high-definition video.

Nulman also notes that the final color-correction process for HD takes place with the director of photography present from start to finish, unlike the photochemical process, which takes three to four days and results in an uncertain product. After the picture is previewed by the director and then the studio, it is still easy to make changes before it is previewed by an audience — one of the benefits of working in HD tape, say Nulman and Markoe.

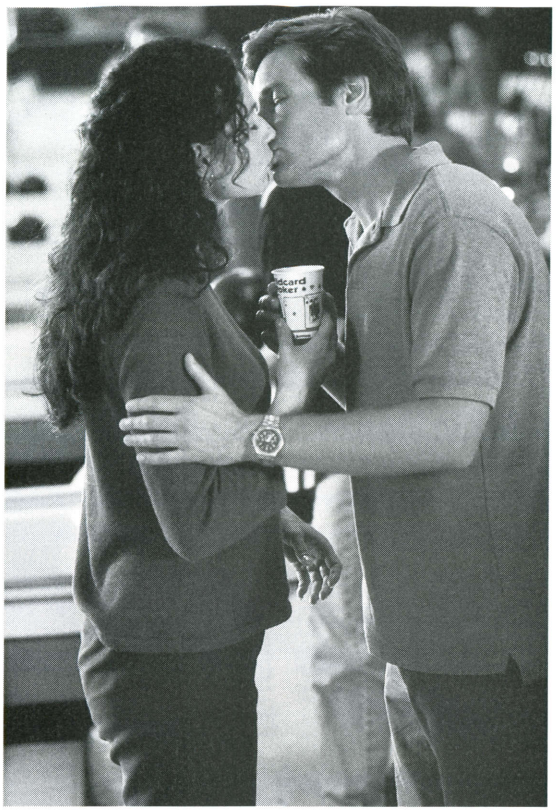
The collaborative relationship between MGM's Markoe and The Post Group in coming up with this solution made it a no-brainer for MGM to be the first to try the Cinema Process. From Markoe's point of view, one of the motivations in being first to try it was that he could dip a toe in the water without buying the swimming pool. "I was able to get a lot of manufacturers to loan us equipment, which helped us save more money than we would have," explains Markoe, who says Sony loaned the HDCAM decks and projectors. "Because the process was new, I couldn't get the studio to commit to buying equipment, so [the loans] helped."

However, Markoe's analysis showed that even if the studio bought a certain amount of equipment, it would realize a substantial savings on each picture — with a bigger savings on a bigger-budget picture. Markoe pegs the savings at around $200,000 per picture; The Post Group ups that figure to between $300,000 and $400,000.

How is money saved? Consider the expense of printing thousands of feet of dailies and the expense of transferring sound for those dailies -- added to the notable expense of hiring a film assistant editor to synch them up. "That's $100,000 right there," Markoe says. "It could be even more, depending on how much was budgeted for the assistant."

There can also be savings in opticals and titles, if the producers were planning on creating temps for the preview. Also, the marketing

A Test of Hi-Def



The fairy-tale romance culminates with a kiss. March preview screenings of the MGM film garnered the highest preview scores the studio had ever received for a film, and it was the first time HD technology had been used in the preview process.

department can use the HD reel to make promos and TV spots without the cost of making IPs. "There are lots and lots of little costs that are saved," asserts Markoe, who adds that screening HD doesn't even require a projectionist, depending on the circumstances.

Working in HD has its own associated costs, of course, the most notable being the hourly cost of HD telecine, which is about double that of NTSC telecine. But Markoe points out that "quantity drives the price down... If more features do this, the video facilities will be able to lower their telecine prices."

"There's no definitive answer on how much [the HD process] saves or how much it can cost," Markoe concludes. "It depends on how many productions use it, and how many facilities want to get into it. Pricing will be driven by what studios are willing or can afford to pay."

But saving money isn't the only issue at stake. "It was my desire to see this work from a technical standpoint, so the creative talent would be happy with it," says Markoe. "I knew the biggest challenge would be selling it to the cinematographer, director and producer. I knew that the cinematographer, in particular, would be much happier to see film dailies."

Return to Me director of photography Laszlo Kovacs, ASC, couldn't agree more. Never one to mince words, he describes the HD dailies as "disappointing" and "unsatisfying." He further declares the system to be "not compatible" with the ultimate film print, citing a "lack of resolution, lack of fine saturated colors, and lack of blacks.

"It has really bright, strong primary colors, but the system doesn't give you back the subtleties," Kovacs explains. "That's what dailies are for, and HD projection doesn't give you those subtleties. In my opinion, HD is still television. It's not film yet. I'm not saying that one day this system won't be good, but I don't think it's ready today."

Markoe concedes that the HD process needs some fine-tuning. "The process hasn't been refined so that all cinematographers are comfortable, but I strongly believe that it will be," he states. "It's a matter of the post houses getting their telecine colorists to know more about how feature cinematographers like to work. Some directors of photography will have an easier time adapting to this than others. For example, feature cameramen who are used to working in television and looking at regular video are able to get the feedback they need. It's a personal thing, though, and you can't make a blanket statement."

Nulman notes that The Post Group's colorists have a lot of experience transferring negative for television programming. "We were asked how much experience we had transferring negative," he recounts. "We handle it every night. But transferring negative is an aberration for feature people. When they asked me that question, I realized we had never done it in the feature world, but the experience and expertise was there [because we] do it every day for the TV world."

Even so, he agrees that the key issue in "selling" the Cinema Process is to ensure that the projection alignments on location, in the studio and in the facility are identical. The Post Group developed its own calibration chart for the projector, which, Nulman maintains, is easy to use to balance out the projectors. "We were concerned about the projector on location, that it wasn't just set up and lit," he says. "It has to look like the film. But you have to go through the reference materials very closely, go through the drill, and be skilled to look out for what you need to do."

Once the preview process is over, the production then creates the necessary optical effects and titles, recutting the film to incorporate them. Nonetheless, says Markoe, the ability to create temp titles and opticals in HD is "much, much cheaper" than temp CG shots that have to be filmed out or conventional opticals that have to be remade/refined several times. "That's a huge waste of time and money," he says. "The HD postproduction process can help streamline the time as well as the money. And even though the HD effects are at 1K resolution, it's amazing how close they still look. It looks much better than a temp optical."

Though the HD elements aren't used for the final product, Nulman says a completed HD master could be used for home entertainment, cable TV, pay-per-view and airline/ships/hotel uses, each time saving the cost of striking a brand-new IP and transferring it to video, which can cost $55,000 to $90,000 each time. "If you have the finished, conformed, final HD master used in previews, you don't need to do any of the work again," Nulman says.

Given the studios' mandate to cut costs, that idea isn't farfetched. In the meantime, though, MGM hasn't yet taken that step. Markoe is still focusing on implementing a successful HD preview process, and he's enthusiastic about the possibilities. "I believe that previewing in HD represents a better product, and gives the audience a better-quality presentation, than previewing on film," he says. "The preview process is important — a lot of weight [is placed on] getting a good score. If a film doesn't preview well, the studio may try to rework it, and it can cost a lot more. Films with more visual effects are ones that are better to preview in HD, because you can present something to the audience that looks much more finished.

"It may be subliminal for the audience, and they may not be able to say exactly why it looked or felt better," he adds. "But seeing something that looks more like a finished film helps the preview process. HD previews definitely do that, although they may not have a pure film look."

Markoe reports he'd like to pursue HD previews further, and is currently waiting for the next film suited for it. He recognizes that the HD preview process isn't for every film at the moment. "For films with a huge amount of action and movement, you might get some image lag, smear and pixillation, depending on the projection system," he notes. "And on a movie that's a sweeping epic with extremely wide-angle panoramas, you'll lose some detail. The systems are being improved every day, so eventually they'll be able to handle all kinds of shows."

Logistics also play a role. For example, one film shooting right now was ruled out because its Mexico locations involve logistics that are too complex. Markoe also wants to continue his discussions with cinematographers and directors, spreading the word on how the process works and what the benefits

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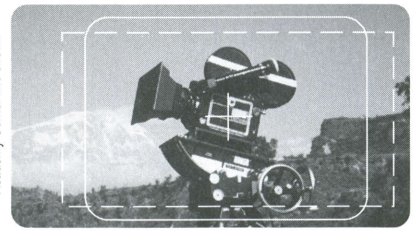

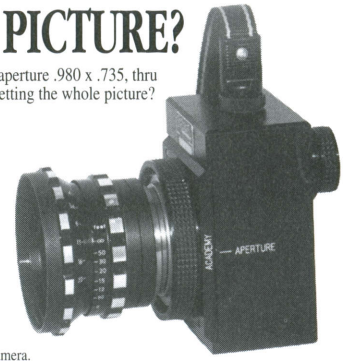

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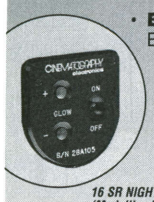

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are. "To me, the key is that the projector manufacturers and video facilities come up with standards for calibration of the equipment, so when the colorist at the video house is talking with the cinematographer, they're seeing the same thing," he says. "They can have those same problems working with film if the projector isn't calibrated right. With standardization, the colorist can work with the cinematographer and give him the feedback he wants, and the cinematographer will be confident that whatever he sees on his screen will match what he sees on film."

Though Kovacs says he would much prefer working with film dailies, he does have a few suggestions for the HD dailies system. First, he says, it's imperative to have someone on location whose job it is to tweak and fine-tune the HD projector, making sure that it continually lines up with the determined look. He says that on location for *Return to Me*, he was never sure of what he was getting — a situation that was remedied when they were working on previews with the same HD system at The Post Group. He also urges post houses to initiate a dialogue with the cinematographer at every step of the HD process, in order to ensure that his or her concerns are addressed.

"You hire cinematographers because they know how to light," Markoe concludes. "But they need the tools to know that they're doing the job right. If they look at an image on HD and can't tell what they're getting, that won't work. With HD dailies, I was very easily able to tell if there were technical problems, but some cinematographers will need further refinements in order to feel comfortable that they're getting the image they need. As the equipment and facilities continue to improve, this is only going to get better. Eventually, it will be used on a widespread basis." ■

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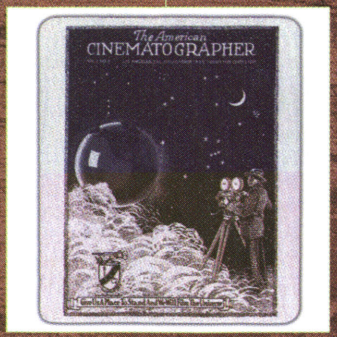


Taking Stock

Cinematographers Christopher Probst and Jay Holben conclude their rigorous tests of Eastman Kodak's Vision and Fuji Film's Super-F families of motion-picture emulsions.

Part 2 of 2

by Christopher Probst

In the first of this two-part series profiling the capabilities and characteristics of the latest motion-picture emulsions, cinematographer Jay Holben presented the team's observations of Fuji Film's Super-F series of camera negatives (see *AC* April '00). This installment examines Eastman Kodak's Vision product line and attempts to offer definitive information about the emulsions' design and structure (explaining the factors behind improvements in sharpness, grain and clarity); we also present the results of our exhaustive battery of tests, and detail how these new design characteristics impact the image on the screen.

A MATURING TECHNOLOGY

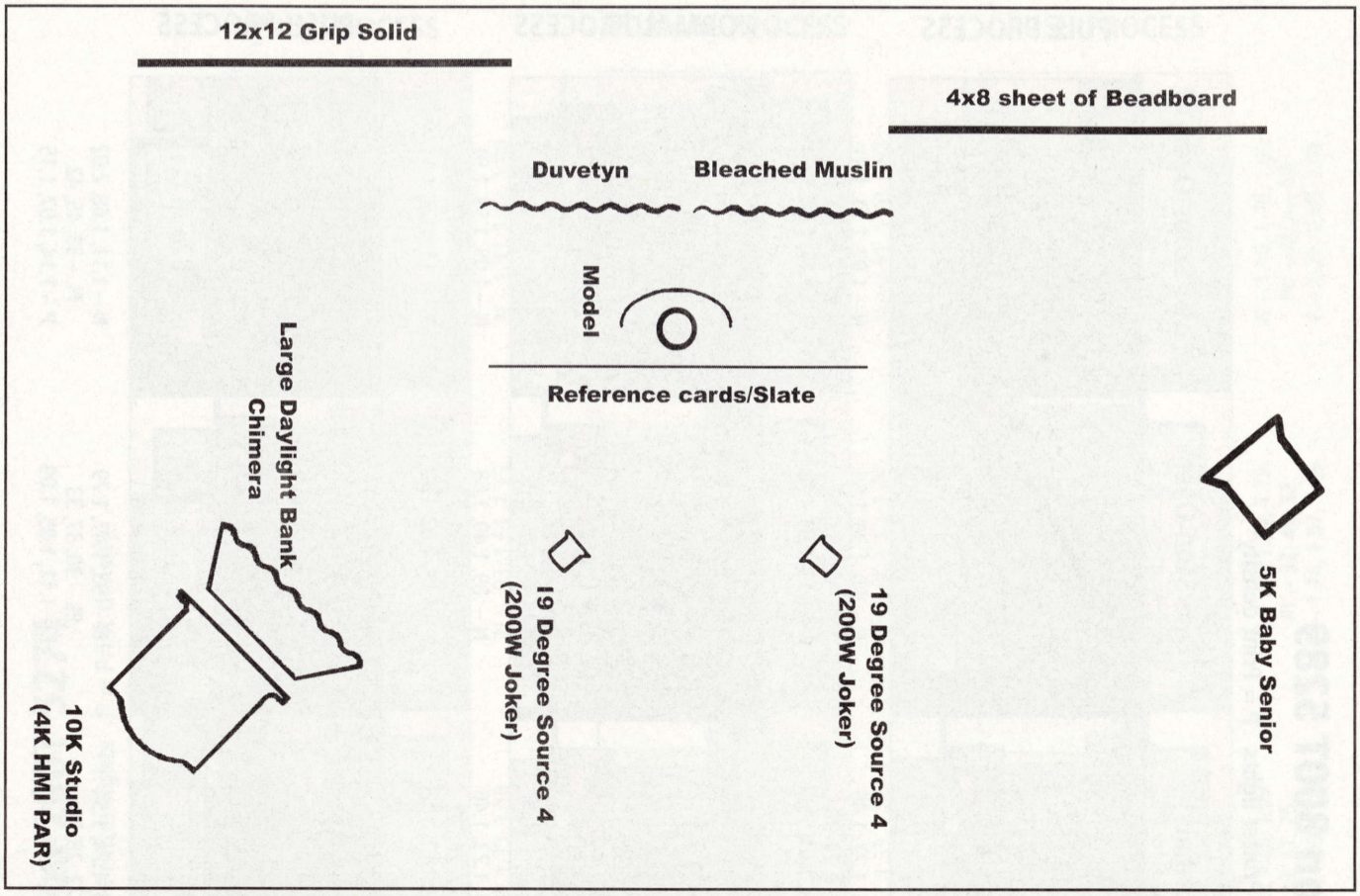
Rob Hummel, executive vice president of digital technology development at Technicolor Labs (and the oft-quoted technical guru of the stock-and-sprocket trade), has stated on several occasions that film is not an old, antiquated technology; rather, it is a *maturing* technology. This becomes all the more apparent while analyzing the state-of-the-art Vision line of motion-picture negative emulsions currently offered by Eastman Kodak. The company introduced the Vision line in 1996 with the 500T 5279 and 320T 5277, and it now offers five Vision camera negatives spanning a significant range of speeds and behaviors. The Vision family currently consists of 200T 5274, 250D 5246, 320T 5277, 500T 5279 and the latest addition, 800T 5289.

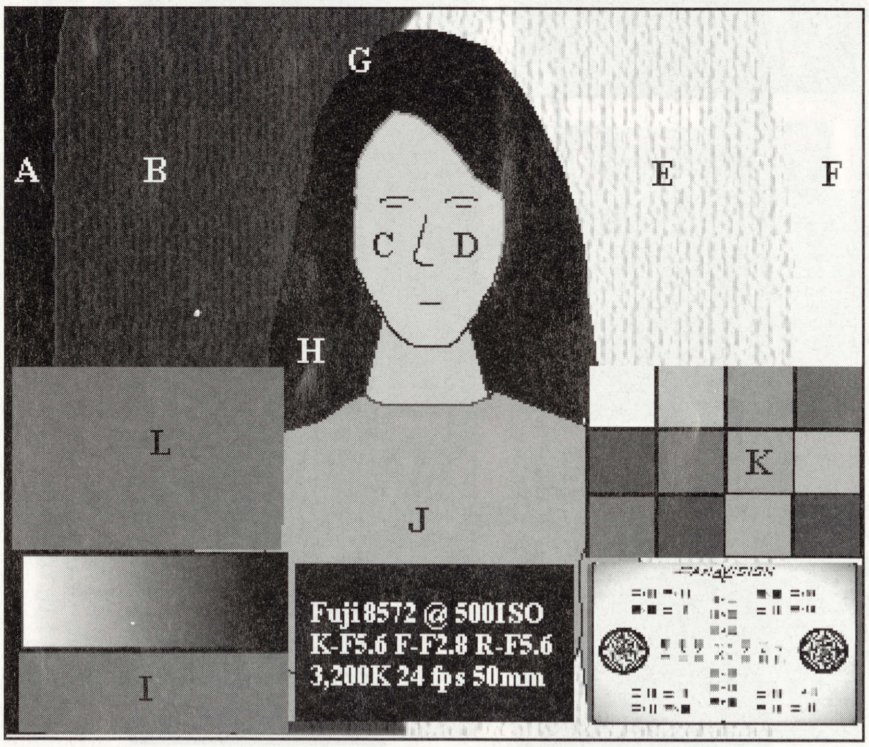
All of the Vision films incorporate Kodak's proprietary advancements in emulsion-design technology, which affects a stock's performance in sharpness, contrast and color-rendition clarity while improving its handling of grain. The Vision line was created to improve upon the characteristics of Kodak's previous line of EXR motion-picture negatives. Steve Powell, a former emulsion engineer who is now in the Motion Imaging Products Platform division of Eastman Kodak in Rochester, New York, states, "It's generally true that even back in the early 1980s, we always tried to increase the speed of our film stocks to higher and higher EIs while making the grain finer. However, especially with the higher-speed products, we've usually battled grain, because in order to create a faster stock, you need to be able to capture more light on the film. And *that* usually means utilizing larger silver-halide crystals.

"In the late 1980s, with the EXR films, we incorporated the first tabular grains [T-grains] into the emulsions, which allowed us to substantially improve the image quality on the screen and increase the sharpness of the picture at the same time. The improvement the T-grains offered has to do with the shape of the silver crystals — they're flat and of a certain thickness, but more importantly, the T-grains allow the films to use light more efficiently. They have a much greater surface area from which to collect light, while also enabling the emulsion to have thinner coating structures."

What makes the Vision line so distinctive, Powell adds, is that all of the layers have been engineered to work together better. "We considered how one layer could influence all of the layers below it. For example, with the Vision line, we made some adjustments in the thickness of the T-grains in our yellow layer, which then helped minimize the scattering of light to all of the layers underneath. This change didn't make a big impact on the yellow layer, but for the layers underneath, less scattering of light dramatically improved the sharpness of the product."

Sensitized Product Engineer Michael Ryan, of Kodak's Origination Film Technology division, offers, "Since we introduced T-grain technology with the EXR films, we've learned how to work more efficiently with the T-grains and how to build





Above: A breakdown of the lighting scheme utilized for all of the Kodak Vision-family of negative motion picture films. As noted in the diagram, HMI units were utilized for the Vision 250D tests — with the exception of the 5K Baby Senior for "Pure White," which was color-corrected with Lee Full CTB gel — while color-balanced Tungsten sources were utilized for all of the other Tungsten-balanced Vision stock tests. Below: Although providing entirely too much data to be printed in a single issue, measurements of each key zone in the scene were taken for every iteration of each stock and lab condition. Referencing this data proved valuable in our analysis and it was therefore deemed interesting to include the drawing in our series of articles.

Kodak Vision 800T 5289

N = Negative density PL = Printer lights P = Print density

PULL PROCESS

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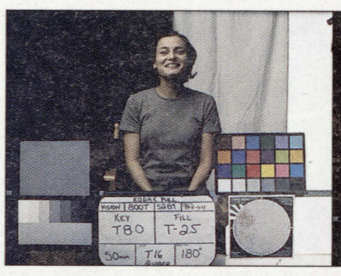		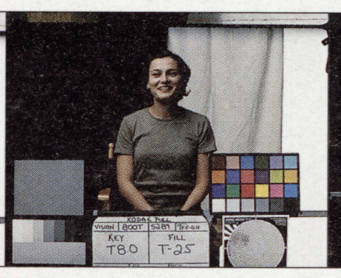	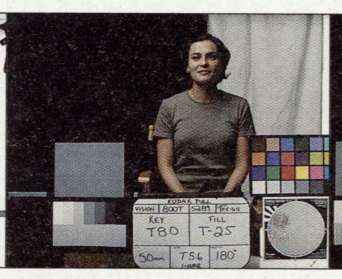	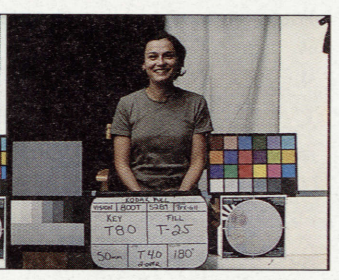
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		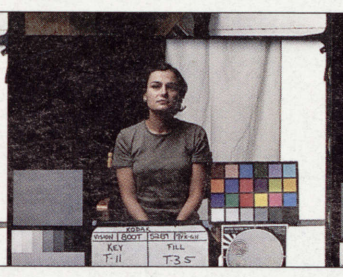		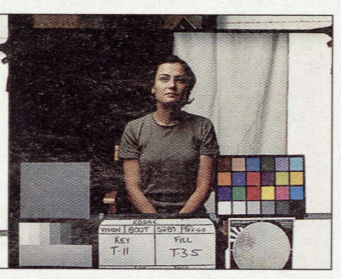
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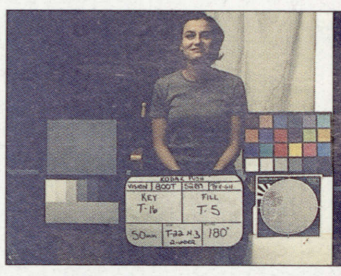	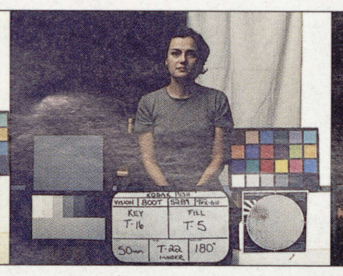	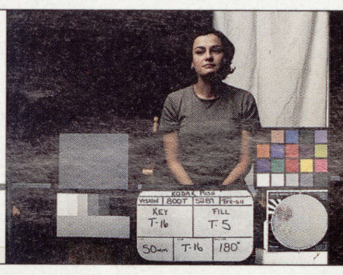	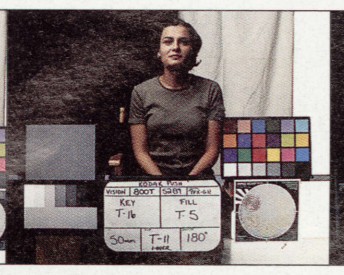	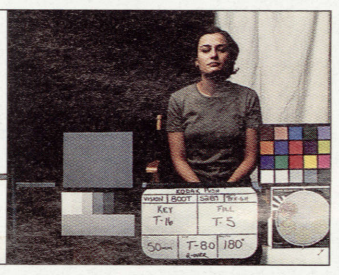
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Kodak Vision 500T 5279

N = Negative density PL = Printer lights P = Print density

PULL PROCESS

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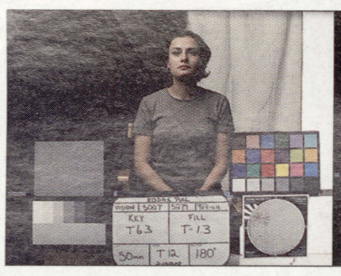	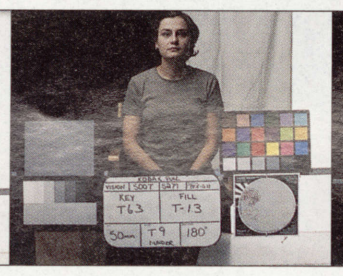	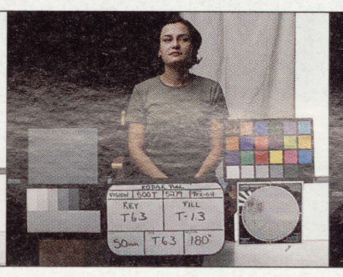	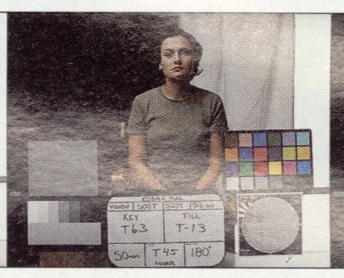	
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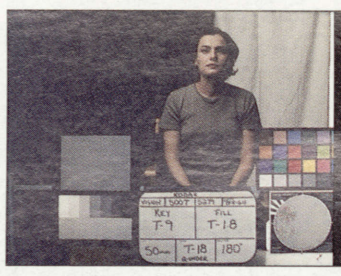	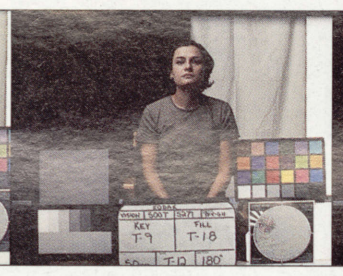	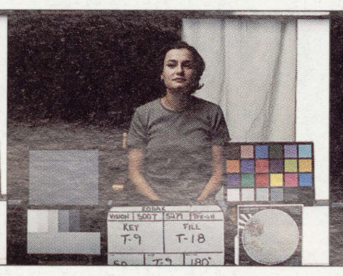	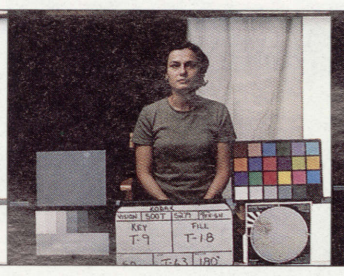	
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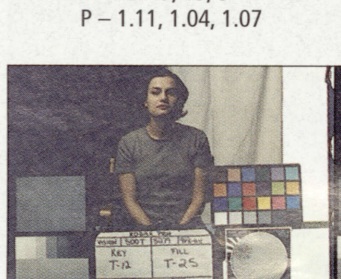	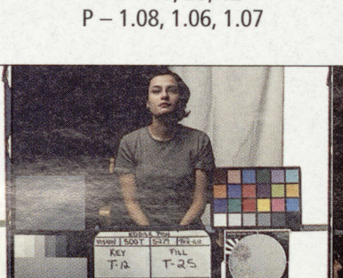	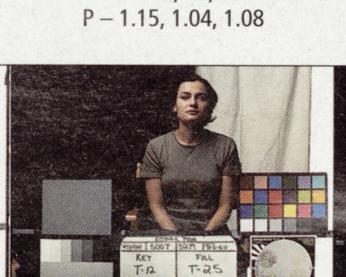	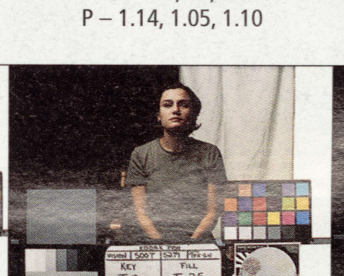	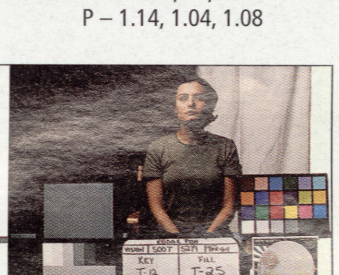
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Kodak Vision 320T 5277

N = Negative density PL = Printer lights P = Print density

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	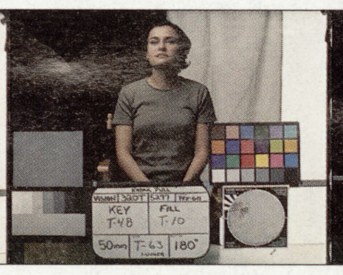	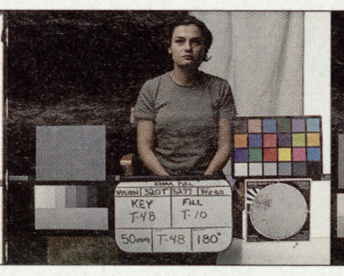		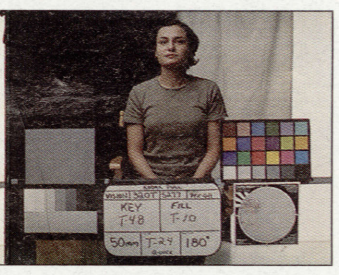
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	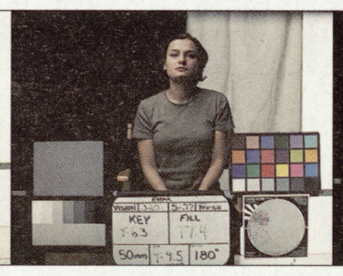	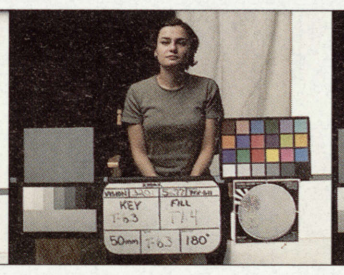	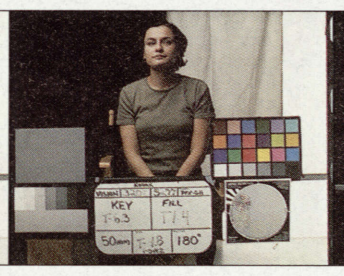	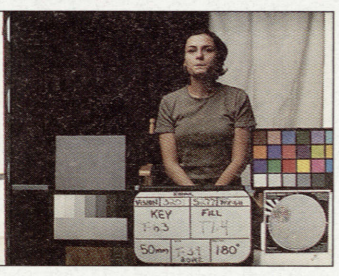
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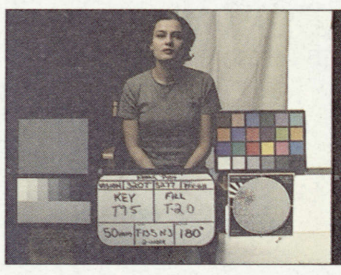		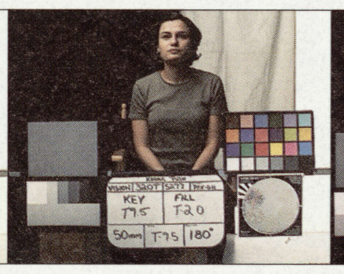	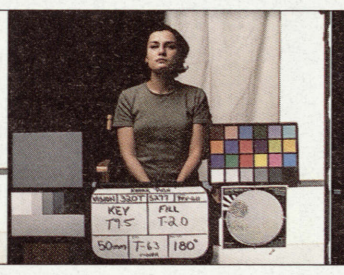	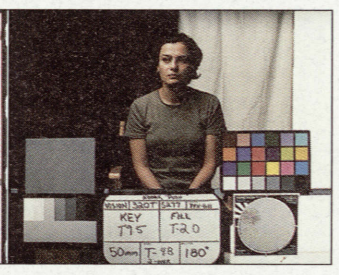
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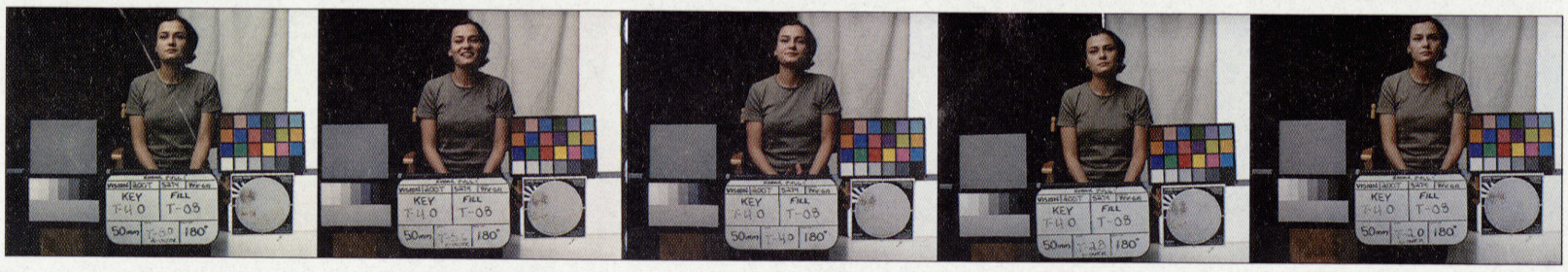
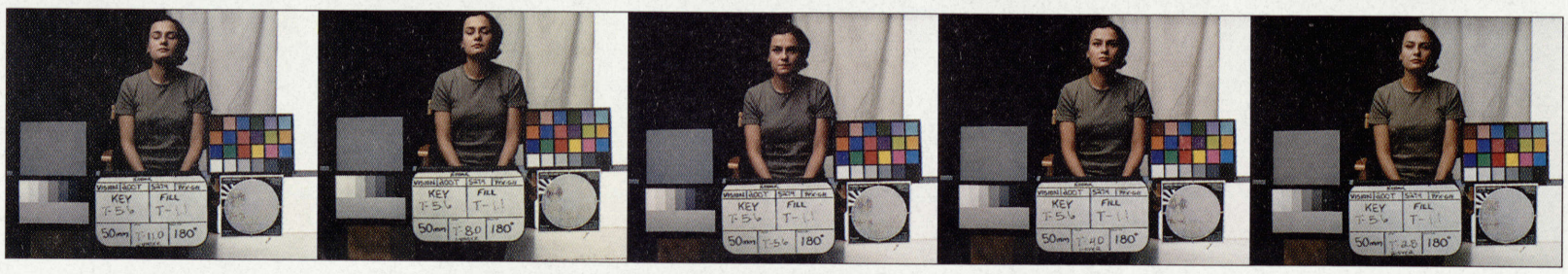
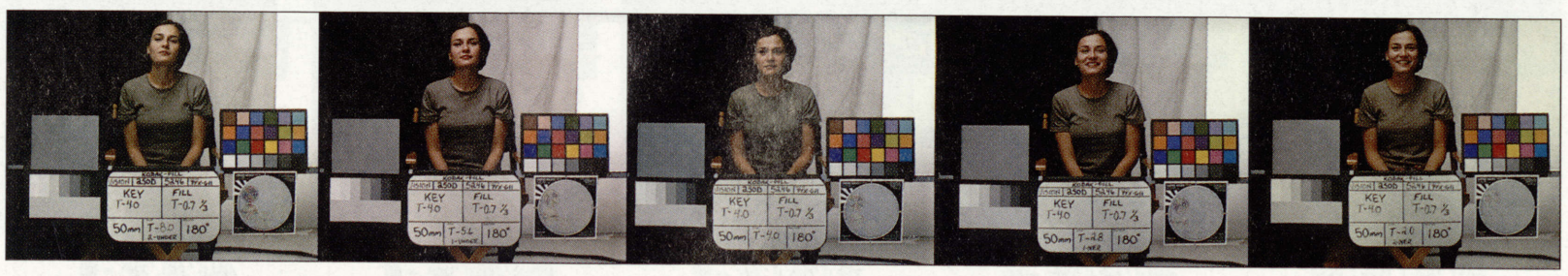
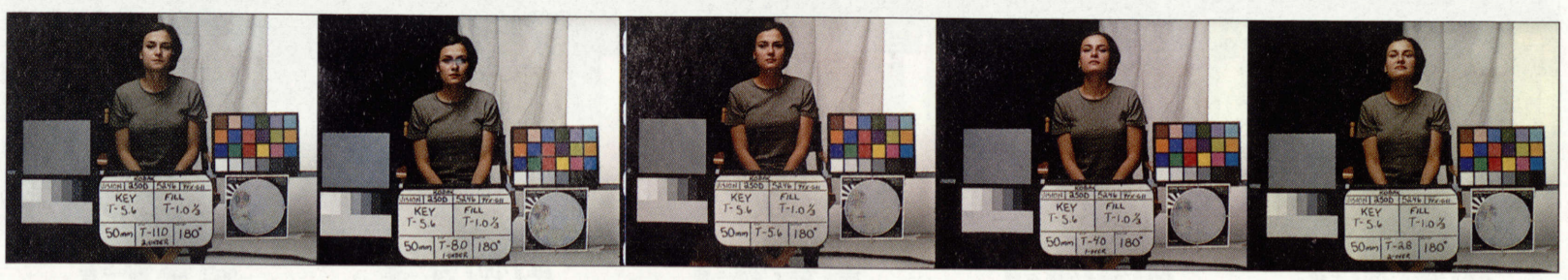
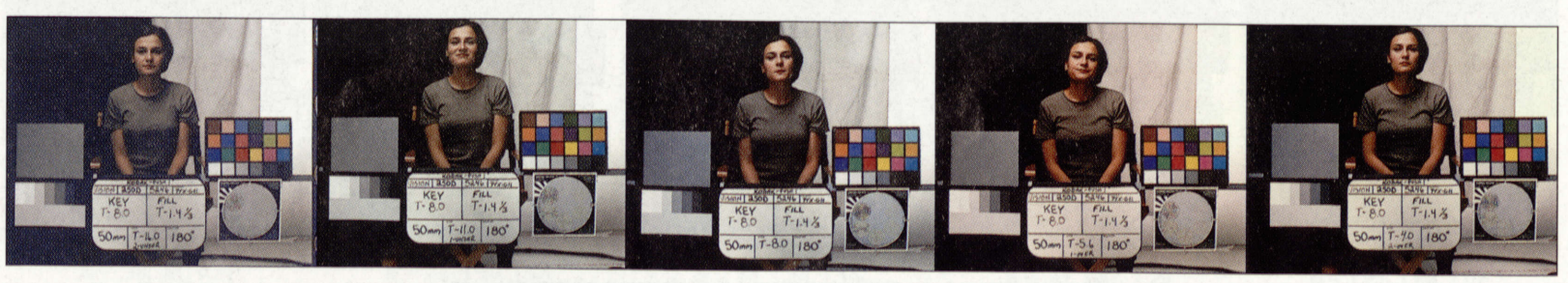
Kodak Vision 200T 5274

N = Negative density PL = Printer lights P = Print density

Two Stops Under	One Stop Under	Normal	One Stop Over	Two Stops Over	
					PULL PROCESS
N – .52, 1.01, 1.27 PL – 13, 19, 13 P – 1.13, 1.08, 1.10	N – .65, 1.19, 1.43 PL – 19, 27, 19 P – 1.14, 1.12, 1.07	N – .80, 1.35, 1.58 PL – 25, 33, 25 P – 1.14, 1.10, 1.09	N – .93, 1.51, 1.75 PL – 31, 39, 32 P – 1.14, 1.09, 1.09	N – 1.03, 1.63, 1.90 PL – 35, 44, 37 P – 1.18, 1.15, 1.11	
					NORMAL PROCESS
N – .46, .95, 1.22 PL – 11, 18, 11 P – 1.12, 1.12, 1.09	N – .62, 1.13, 1.40 PL – 17, 24, 18 P – 1.11, 1.07, 1.08	N – .77, 1.33, 1.56 PL – 24, 32, 24 P – 1.13, 1.08, 1.07	N – .94, 1.52, 1.72 PL – 31, 39, 31 P – 1.13, 1.07, 1.10	N – 1.11, 1.70, 1.94 PL – 38, 46, 39 P – 1.11, 1.09, 1.11	
					PUSH PROCESS
N – .36, .87, 1.21 PL – 7, 14, 11 P – 1.12, 1.07, 1.09	N – .59, 1.09, 1.40 PL – 17, 23, 18 P – 1.15, 1.09, 1.06	N – .76, 1.29, 1.59 PL – 23, 31, 25 P – 1.15, 1.09, 1.06	N – .95, 1.54, 1.75 PL – 32, 40, 32 P – 1.14, 1.07, 1.09	N – 1.19, 1.76, 1.95 PL – 42, 49, 39 P – 1.21, 1.16, 1.09	

Kodak Vision 250D 5246

N = Negative density PL = Printer lights P = Print density

Two Stops Under	One Stop Under	Normal	One Stop Over	Two Stops Over	
					PULL PROCESS
N – .55, 1.01, 1.29 PL – 14, 19, 14 P – 1.10, 1.04, 1.09	N – .69, 1.19, 1.48 PL – 20, 27, 21 P – 1.07, 1.06, 1.02	N – .83, 1.34, 1.66 PL – 27, 32, 28 P – 1.17, 1.04, 1.05	N – .99, 1.50, 1.86 PL – 32, 38, 35 P – 1.13, 1.07, 1.08	N – 1.08, 1.63, 1.99 PL – 36, 43, 41 P – 1.13, 1.08, 1.12	
					NORMAL PROCESS
N – .52, .97, 1.23 PL – 13, 18, 11 P – 1.16, 1.10, 1.09	N – .65, 1.13, 1.41 PL – 19, 25, 19 P – 1.14, 1.12, 1.11	N – .81, 1.36, 1.62 PL – 25, 33, 27 P – 1.08, 1.01, 1.07	N – .97, 1.52, 1.81 PL – 32, 40, 34 P – 1.16, 1.11, 1.09	N – 1.13, 1.69, 2.01 PL – 39, 46, 42 P – 1.15, 1.06, 1.09	
					PUSH PROCESS
N – .45, .92, 1.18 PL – 10, 16, 9 P – 1.12, 1.10, 1.07	N – .65, 1.13, 1.39 PL – 18, 24, 18 P – 1.12, 1.10, 1.10	N – .79, 1.31, 1.58 PL – 25, 32, 25 P – 1.19, 1.12, 1.07	N – .99, 1.58, 1.84 PL – 32, 42, 36 P – 1.14, 1.12, 1.15	N – 1.21, 1.81, 2.06 PL – 41, 50, 43 P – 1.15, 1.13, 1.09	

components that knit together well across a curve. With the Vision family, we've started to triple-coat the magenta layer, whereas all previous emulsions consisted of dual layers — a fast and a slow component. [The triple layer] allowed us to make certain chemical changes in the emulsion that greatly reduced the film's granularity while improving the overall sharpness."

Powell notes, "With the Vision line, we've also added a proprietary compound that helps us hold light better once the silver-halide crystals are exposed. When you expose film in a camera, there's a lot of light loss. However, with the addition of this compound, the crystals hold the light much better, enabling us to improve a stock's performance in [either of] two different ways. For instance, if the silver-halide crystals hold light better, you now have an image that can be developed, whereas you previously couldn't because the light was lost. In this way, you can now have a faster-speed product with the same-size silver crystals [grain]. Or, you can use this improved light-efficiency performance to have *smaller*-size silver crystals for the same-speed film, thus improving the grain."

This two-track improvement resulted in the design of Vision 500T 5279 (which, based on the characteristics of its predecessor, EXR 500T 5298, used the aforementioned benefits to improve sharpness and reduce apparent granularity) and Vision 800T 5289 (which instead utilized the heightened light-capturing capabilities to increase its speed by two-thirds of a stop while maintaining a similar grain structure to 5298). Ryan notes that "Vision 800T is a continuation of the tonal and color reproduction aspects of the current Vision stocks [and is faithful to the tonal characteristics of 5298], but it takes advantage of further improvements in the emulsion design by adding a third yellow layer. 5289 has seven new silver-halide emulsions, which improve the light-gathering efficiency of the film and allow for the capture of more shadow details in low-light situations. Because the film is tungsten-balanced, the yellow [blue-sensitive] layer is traditionally the most challenging layer to get speed in, and it therefore ends up being the grainiest. But since we now triple-coat the yellow layer, we have T-grains in the slow *and* middle-speed portions, and we also utilize some of the improved chemical addenda that we incorporated on the other layers.

The Vision line was created to improve upon the characteristics of Kodak's previous line of EXR motion-picture negatives.

"However, even though the addition of the third yellow layer allowed us to keep the granularity in the yellow layers closer to that of Vision 500T 5279's level, Vision 800T 5289's faster speed means that the other two layers — cyan and magenta [the red- and green-sensitive layers, respectively] — are still at a *slight* disadvantage compared to 500T. So from a granularity point of view, the 800T is still more on a par with EXR 5298."

Also unveiled at the same time as Vision 500T was Kodak's lower-contrast emulsion, Vision 320T 5277. Built from its EXR equivalent, the now-discontinued 200T 5287, 320T incorporates similar design improvements, as well as a slight modification from Kodak on how the stock should be handled. "5287 was created out of a series of discussions with cinematographers from around the world," Powell says. "We created slides from an original 5298 negative and, through different laboratory techniques such as flashing and pull-processing, created a number of different wholesale looks, offering a range of different contrasts in the highlights and shadows. We projected these slides and asked the cinematographers what they thought about each, having them rate the stocks in terms of several criteria. That way, we could take those number ratings and translate them into a tonal scale for a product.

"The look that resulted in EXR 5287 was by far the most popular. 5287 actually used the same raw ingredients as 5298 — the same silvers and so on — but the recipe of how those ingredients were mixed, the balance of components and different emulsion sizes, was different. We adjusted the recipe to create more of a graduated shadow area, more of an ability to capture detail. Given the same scene, you could see more detail in the shadows with 87 than with 98. With Vision 320T 5277, we once again wanted to improve the grain and sharpness while retaining the same basic curve shape as 5287. However, based on feedback from our customers, we changed the [recommended] speed of the stock from 200 to 320, because we felt that an EI rating of 320 was a better overall use of the product for its shadow and highlight characteristics."

The slowest Vision stock, 200T 5274, was also built upon the characteristics of its EXR forefather, the popular 5293. "5293 has been a lot of cinematographers' all-time favorite stock," Powell reports. "In creating the Vision 200T, it was therefore very important to maintain 93's tonality and feel — its ability to have a neutral response from shadows to mid-scale to highlight. The only significant difference from the other Vision films is that Vision 200T is a slower-speed stock than 5279 or 5289, which makes

it a much finer-grained product."

The final film upgraded to the Vision family, the 250D 5246, stands out among its Vision counterparts in that its prior incarnation, 5297, was a pre-EXR emulsion and didn't include T-grains in its structure. Powell notes, "5297 was introduced in the late 1980s and had more cube-shaped, 3-D crystals. Thus, when we launched the Vision 250D 5246 stock — which introduced T-grains to the emulsion, as well as improvements in light efficiency and a reduction in the scattering of light — what customers saw was, in effect, a *two*-generation leap in technology between the two films."

Powell further notes that "daylight films are designed somewhat differently than tungsten films. Typically, films with a daylight balance have a slightly different sensitivity in their color records — what we call spectral sensitivity. With a tungsten film, the emulsion has less response to blue-light energy than red; this means that you have to have larger blue-layer silvers in order to produce a neutral image in tungsten light. Daylight has more blue-light energy than tungsten light, so with a daylight-balanced product, you can use a smaller blue layer. [More uniform color sensitivity] affects how other light sources [of different color temperatures] record as well, which is why 250D handles mixed-lighting situations so well."

THE TEST

To be as accurate as possible for this inspection of motion-picture camera negatives, fellow *AC* writer and cinematographer Jay Holben and I conducted exhaustive research and consulted several highly respected directors of photography — including Allen Daviau, ASC, Robert Primes, ASC and Denis Lenoir, AFC — who were all familiar with putting different stocks through their paces. We also relied upon the expertise of Tom Kuhn and Mary Quan at Deluxe Laboratories, who performed months of lab work in order to generate the data on which we performed our analysis.

As detailed in last month's article, all of the emulsion tests were conducted on 35mm negative alone. The accompanying chart (see fold-out section) was created for our data sheets to reference the primary areas where exposure-control measurements would be taken. Information was recorded for each batch of iterations and for each emulsion. During the tests on all emulsions, the model was seated just behind the reference charts, which included a Kodak 18% gray card (at position "L" on the chart), a seven-step gray scale ("I"), a MacBeth Color Chart ("K") and a Sharpness Indicator created by Ivan Putora, as well as an information slate. Immediately behind the model, we hung a strip of black Duvetyn ("B") and white bleached muslin ("E") to provide "textured black" and "textured white" references. (Incident meter readings in these areas were 1 ½ stops under key level.) Immediately behind those areas (on the left and right sides of the frame) but farther off in the background, we placed a large, 12' by 12' grip solid ("A") and a 4' by 8' sheet of polystyrene board ("F") to provided references to "pure black" (the incident meter reading in this area was 7 ⅔ stops under key) and "pure white" (three stops over key) contrast extremes.

Each iteration of the tests was exposed three times on three separate rolls of the same emulsion: one for a one-stop, pull-development process; one for normal development; and one for a one-stop, push-development process. The ISO for each emulsion was determined by the manufacturer's recommended base rating. For pull- and push-processing, the emulsions were rated one full stop under and over their respective ratings (e.g., for Kodak's Vision 500T 5279, the normal-process iterations were exposed with an ISO rating of 500; the pull-process rolls were exposed with an ISO rating of 250; and the push-process rolls were exposed with an ISO rating of 1,000). Using this method, we could keep the lighting setup constant for each phase of the emulsion tests, and adjust exposure levels consistently using the lens T-stop.

The reference cards were all lit to a level that matched the key source level. Their illumination was not altered during the test so that they would remain at the same exposure level as the lens iris setting. Lighting for each of the tests was achieved through the use of tungsten or HMI sources, depending on the emulsion's color-temperature balance (see lighting diagrams for details). Color temperature was carefully monitored and altered (with Lee CTO and CTB correction filters) to fall within an overall tolerance of +/- 50K of 3,200K for the tungsten-balanced stocks, and +/- 50K of 5,500K for the daylight-balanced stocks. Temperature measurements were taken with a Minolta Colormeter II from the position of the model.

Incident meter readings were taken with a Minolta Auto meter III, and reflected meter readings were taken with a Minolta Spot F meter. All calibrations for the meters had been completed within the previous 30 days by Quality Light and Metric in Hollywood. All of the tests were photographed with a Panavision GII camera and a 50mm Primo lens. Lighting was provided by Hollywood Rentals, and the laboratory work was performed by Deluxe Hollywood.

After the test was completed, all of the rolls were taken to Deluxe for processing. Pull- and push-processing was precisely calibrated to yield a true one-stop rating, per Deluxe's standard procedure. Each iteration on the negative was then examined on a densitometer (reading the emulsion's recorded density on the Kodak 18% gray card at exactly the same frame for each iter-

ation), and the information was recorded. Printer lights were then designated to achieve a proper rendering of the scene (targeting the print-lab aim density of red, 1.09; green, 1.06; and blue, 1.03) based on that gray-card densitometer reading. Once a print was struck, each iteration on the positive was again examined through a densitometer to determine whether the printer light choices had been correctly assessed. Alterations were then made to properly reflect as near as possible to a LAD reading off the gray card in each iteration, and a second print was made from the original camera negative. This print was once again examined on the densitometer, and the values were recorded.

Also worth noting: for the majority of the tests (with the exception of the 250D test, which was the first emulsion tested), we utilized a mathematical T-stop setting instead of fractions of a stop (e.g., T2.8 ½ was presented as T3.4) for the slate that appears in each frame. The scale, shown in both ⅓ and ¼ stops, appears below for reference (bold number are full stops, underlined numbers are ⅓ stops, and regular numbers are ¼ stops):

1, 1.1, <u>1.13</u>, 1.2, <u>1.3</u>, 1.36, **1.4**, 1.5, <u>1.6</u>, 1.7, <u>1.8</u>, 1.9, **2**, 2.2, <u>2.3</u>, 2.4, <u>2.5</u>, 2.6, **2.8**, 3.1, <u>3.2</u>, 3.4, <u>3.6</u>, 3.7, **4**, 4.4, <u>4.6</u>, 4.8, <u>5</u>, 5.2, **5.6**, 6.2, <u>6.3</u>, 6.8, <u>7</u>, 7.4, **8**, 8.7, <u>9</u>, 9.5, <u>10</u>, 10.2, **11**, 12.2, <u>12.7</u>, 13.5, <u>14</u>, 14.7, **16**, 17.5, <u>18</u>, 19, <u>20</u>, 20.5, **22**, 24.5, <u>25.3</u>, 27, <u>28.6</u>, 29.5, **32**.

Once the model was correctly positioned behind the reference cards, a single, large, soft source was used as a front key. For each iteration, the light source intensity remained the same, while over- and underexposure bracketing was achieved via changes to the lens T-stop. For each batch of tests, the T-stop was altered to achieve a normal exposure (at the key level), one- and two-stop underexposures, and one- and two-stop overexposures. Each of these iterations was then "printed back" to normal based on the densitometer readings from the 18% gray card. This test was designed to demonstrate how each of the emulsions reacted to varying levels of under- and overexposure when being timed back to a normal density on the 18% gray card (see sidebar on densitometery in last month's foldout section).

The Vision 250D 5246 daylight-emulsion tests were lit with HMI lamps balanced to be within +/- 50K of 5,500K. For the tungsten tests, all four emulsions were tested with the same lighting setup. Allowances for the differences in the film speeds were compensated for on the lens by altering the base T-stop, making slight adjustments in the spotting or flooding of the lamp to precisely hit our quarter-, third- and whole-stop scale. For example, for normal processing, normal "key" iteration exposure for the Vision 200T emulsion was made at a stop of T5.6; for the 320T test, we changed the base stop to T6.3; for the 500T stock, we set the lens at T9; and for the 800T, we set our base at T11. Using one base-lighting level allowed us to maintain a consistent lighting shape and balance for the tungsten tests. However, it was necessary to employ a Schneider Neutral Density .3 filter over the lens on the push-process at the two-stops-underexposed iterations of the 500T and 800T stocks to achieve proper lens stops of T25.3 and T32, respectively. These were the only instances where a filter was used during the Kodak emulsion tests.

THE RESULTS

All of the iterations for the test appear in the foldout section. As with the Fuji results, a considerable amount of information can be derived from close examination and a direct comparison of each exposure/processing iteration. It is important to stress that every effort has been made to give the truest representation of the film-printed iterations here. However, because of the limitations in the CMYK color-printing process (used to reproduce the images here on the printed pages of the foldout section), the images we've presented can only be deemed illustrations, not actual duplications, of the results seen in the positive images on a film print.

We emphasize that all of the iterations here are made from a positive print struck from the negatives of the tests. All of the Kodak-stock tests were printed on Kodak Vision print film 2383. Because the tests examine as thoroughly as possible the performance of original camera negatives, the heightened color saturation and increased blacks of the Vision Premier 2393 print stock made it inappropriate for our evaluations. (See New Products, *AC* Nov. '98, for more information on Kodak Vision print films.) The images used in the foldout were clipped from our final positive Vision print and then scanned for inclusion here. There were no internegative or interpositive steps involved in the test. As a result, the images appearing here are as true a representation of the characteristics of both the print and the negative stocks as possible. However, it should be pointed out that when testing for a theatrical release, there is merit in taking the tests through all stages to the release print in order to see the true aspects of contrast, grain (especially if shooting Super 35, which requires an optical step) and color saturation.

Readers should also keep in mind that grain quality is derived from a comparison of and a change in the grain structure of *successive* frames in a moving image, and is not necessarily clearly discernible in a single still frame. However, to best discern the grain quality in the still images, compare the 18% gray cards from one iteration to the next, keep-

ing in mind that some pixillation-type artifacts are created in the CMYK printing process. Additionally, to help the reader analyze the information contained in each of the various iteration, we have provided all of the densitometer data and printer-light information below each iteration on the foldout. These numbers represent, respectively, the original camera negative's density (a true indication of what is "on" the film), the printer lights (giving the cinematographer a grasp of what is then required in print to correct the image to a normal rendering), and the positive's density (finally illustrating and confirming the resultant LAD-targeted image created by the color-correction process) for each exposure/processing variation. The iterations are organized on the page to have all of the "normal" exposure images in the center row. The top row of five images are the pull-process results; the middle row are the normal-process results, and the bottom row are the push-process results.

Beyond the specific performance within an individual stock's five-stop exposure wedge, practical examples of variations in negative treatment can clearly be seen. A valuable comparison is to evaluate the iterations from a pull-process, one-stop-underexposed image; a normal-process, normal-exposure image; and a push-process, one-stop-overexposed image to observe the effect on contrast and color saturation with the same lighting and exposure values. (Each of these iterations was made with the same T-stop exposure, but the processing treatments were different.) This comparison illustrates the effect laboratory techniques have on the stock's behavior. The organization of the images allows the reader to make these comparisons by examining any diagonal pattern (from upper left to lower right on the page) of the various iterations.

GENERAL IMPRESSIONS

A general rule that was confirmed in our tests is that in normal processing, underexposure tended to mute colors and began to introduce diluted blacks and grain, while overexposure tended to slightly saturate colors, heighten contrast and deepen the blacks while tightening the grain. However, it should be noted that due to the sheer magnitude of the tests conducted, we only performed exposure iterations from two stops below key to two stops above key, so our observations apply only to this window of exposure range. History has proven many times that a grossly overexposed image can be just as unusable for a "normal" rendering of reality as a substantially underexposed image.

Another general observation is that pull-processing tended to reduce contrast and soften color saturation, while push-processing tended to increase contrast and saturate the colors. Also, within each of these processing series, the bracketing of exposure from two stops under to two stops over exhibited a similar behavioral pattern to that of the normal-processed series, except that each series took on the general bias of the laboratory conditions to which it was subjected. For example, in the push-process series, underexposure still tended to soften color saturation, introduce milk into the blacks and add apparent grain. Overexposure heightened the already-increased color saturation and contrast from the push-process, but the blacks and the grain were still tight — though with increased chroma response and contrast, the image at the extremes of pushing and overexposure tended to get a bit blocky. Following suit, the opposite was true of the pull-processing series: the stocks tracked as expected within their exposure ranges, while exhibiting the properties expected from the laboratory condition.

One important note is that with all of the Kodak films, over- and underexposure, as well as push- and pull-processing, still yielded a linear, neutral color response in the highlights, mid-tones and shadow areas. Additionally, in our opinion, the latitude handling of the stock did track equally in overexposure and underexposure, affirming the ISO of the stock to perform at the manufacturer's recommended ratings.

SPECIFIC IMPRESSIONS

Vision 200T 5274
Normal Process

In terms of contrast and tone, this medium-speed film stock seems to represent a middle ground for the Kodak Vision family. With normal processing, the contrast is sharp and strong, without being harsh on model Natasha Milasinovic's fleshtones. The slowest stock offered in the Vision line, the film held its latitude remarkably well. Even at two stops underexposed and printed back, we only just started to detect a little milkiness in the blacks, but the apparent grain was still virtually the same as with normal exposure. At two stops overexposed, the contrast and color saturation did come up a bit, but the fleshtones didn't get blocky; in fact, the overexposure added a slight creaminess to the highlight portion of Natasha's cheek.

Overall, the film is very sharp. In the screening room at Deluxe, with normal and one-stop underexposure, I could clearly see the second-to-the-finest circle of rings on the Sharpness Indicator chart — with all the larger rings (#3 through #6) still clearly visible. With two stops of underexposure, however, the second-finest ring (or the #2 ring, as I'll now refer to it) starts to fade in sharpness just slightly. Conversely, with overexposure, we also start to lose the #2 ring. This would indicate a certain sweet spot in the film's sharpness reproduction that is connected to contrast and exposure.

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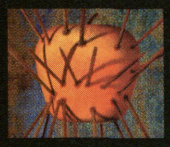

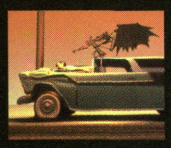

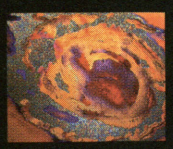

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Pull-Process

As expected, the pull-process series yielded a slightly softer contrast and color saturation palette. With normal "key-level" exposure, the fleshtones are quite pleasing. In fact, I'd say that using this emulsion somewhere between key and one stop underexposed, with the pull process, probably results in the best fleshtones of all the stocks. With the pull treatment, grain is virtually nonexistent. Even two stops underexposed, the blacks have barely a hint of milk (even less than seen with normal processing), and at this exposure, the colors are soft and pastel in quality. With overexposure, the color saturation comes back a bit, although not quite back to the quality of normal processing with normal exposure.

Tracking the stocks' sharpness with the various lab processes also yields some interesting information. At normal exposure, we've lost the #2 sharpness ring, but we start to gain it back with underexposure. Conversely, we again lose the #2 ring with overexposure.

Push-Process

Pushing the Vision 200T created a much more dramatic look. The overall contrast is increased, creating a particularly distinct separation between Natasha and the black background. At normal exposure, the colors are saturated and pop more than what would be considered a natural rendering of the MacBeth chart. With two stops overexposure, the colors really start to saturate to point where — with the combined increase in contrast — they start to block up the fleshtones. The image starts to take on a little bit of an ENR-type quality. (See "Soup du Jour," *AC* Nov. '98, for more information on this process.) With two-stop underexposure and push-processing, we now have the first instance of milky blacks and the appearance of some grain throughout.

The push-process did seem to slightly heighten the sharpness of the stock, however. At normal exposure, I can detect a hint of ring #1 on the sharpness chart, which begins to diminish with overexposure. This ring is still evident even at two stops underexposed.

Vision 250D 5246

Normal Process

Stepping up to a 250 ASA daylight stock, the overall grain and contrast performance is very similar to Vision 200T, with perhaps a bit more contrast. At two stops underexposed, the blacks and grain are as tight as they are in the 200T. The color rendition/saturation and contrast are also very similar, providing a clean, accurate rendering of the photographed scene — overall, a very sharp image.

With both normal processing and normal exposure, we can clearly see the #2 sharpness ring. Interestingly, as we begin to delve into underexposure, we begin to pick up traces of ring #1. With overexposure, we lose ring #1, and at two stops overexposed, ring #2 starts to fade somewhat.

Pull-Process

Again, the palette becomes softer and, in my opinion, a bit more forgiving on fleshtones. This is not to say that normal processing of this stock is harsh-looking, but perhaps it is too realistic. With the pull-processing, fleshtones soften just slightly and give the skin a sense of smoothness. Also, as expected, color saturation comes down with the pull, as well as with underexposure. Even at two stops underexposed, the blacks are tight, perhaps just on the edge of hinting at milk, but still without a lot of obtrusive grain.

At normal exposure on the pull-process iteration, the #2 ring is barely visible, but it becomes sharp as we bracket to two stops underexposed. At the other end of the scale, the #2 ring is nonexistent with two stops overexposure.

Push-Process

Pushing the 250D also increased the contrast and chroma. With normal exposure, the fleshtones have strong chroma and start to get somewhat blocky and metallic-looking. At two stops over, the contrast and color saturation are dramatically heightened over normal processing, again giving the image the impression of a silver-retention process. However, even at this extreme, the image is quite flattering on Natasha's fleshtones.

The sharpness of 250D with push-processing is somewhat diminished, showing a sweet spot near normal exposure to one-stop underexposed, and never getting sharper than displaying the #2 ring. Only at two stops overexposed did ring #2 begin to fade out.

Vision 320T 5277

Normal Process

Kodak's lower-contrast stock displayed just that characteristic. With normal processing and normal exposure, the image displayed a contrast range and color rendering closer to that of Vision 200T with pull-processing and normal exposure. The fleshtones and colors were slightly softer than the previous two stocks, and looked quite pleasing. Still, a softer palette didn't mean a loss of sharpness or blacks. However, now that we're starting to step up in film speed, to two stops underexposed, we can clearly detect milk in the blacks. At two stops overexposed, we gain back blacks, as well as some of the chroma, yielding a look closer to the "normal" Kodak stocks.

Surprisingly, the 320T is remarkably sharp. With normal exposure, we can just barely detect definition in ring #1, and the sharpness comes up as we move toward underexposure. By two stops underexposed, I can see distinct ring definition in the #1 ring. Perhaps this is a function of the non-linear toe performance region of the stock's

characteristic curve.

Pull-Process

A softer stock to begin with, this emulsion becomes fairly pastel even with normal exposure. At one and two stops underexposed, the image takes on a very painterly patina. The blacks are also somewhat softer, especially at two stops under, though I wouldn't call them milky because they seem to complement the softer contrast and colors. This is definitely a look that could be used to amazing, subtle effect. Once again, two-stops overexposure begins to counteract the pull-processing effect, bringing back the contrast, blacks and color saturation and yielding an image closer to a normally processed, normally exposed iteration.

The pull-process diminished the sharpness somewhat — only at two stops underexposed did I detect a hint of the #1 ring. At two stops over, the #2 ring is becoming mushy. Too little contrast, it seems, impedes the stock's ability to define the rings clearly, even though the toe effect does help out in the underexposure ranges.

Push-Process

With the push, the 320T at normal exposure begins to resemble the 200T 5274 at one-stop underexposure. In this series, the blacks struggle more to maintain themselves. Even at one stop under, detectable milk begins to appear with some mild grain. By two stops underexposed, the milk is readily apparent, and there is also more prominent grain movement in the mids and blacks.

Vision 500T 5279

Normal Process

While this is one of my favorite stocks, we can track an increasing curve of milk and grain as we move to higher and higher ASAs. At normal exposure, the stock performs true to the Vision product line. The colors are a bit softer than, say, Vision 200T, but I would call

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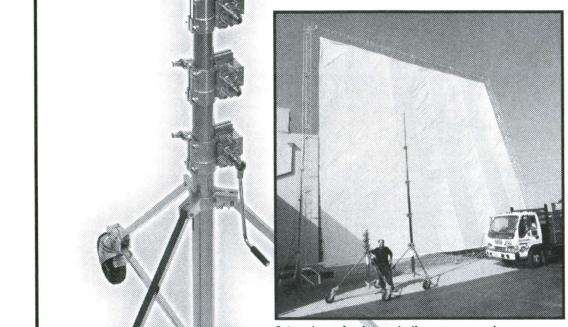

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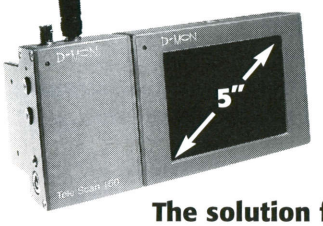

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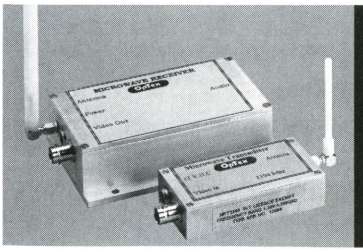
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them very close to reality. At normal exposure, the grain is hard to detect, but at one stop under we detect some granularity in the grays, and by two stops under we clearly see the grain of the film. However, I would not yet classify this image as unusable for a "realistic" rendering.

The film is also surprisingly sharp for a 500 ASA emulsion. With normal processing, there seems to be a sweet spot somewhere between normal exposure and one-stop underexposure, where we can see all the way up to traces of the #1 ring.

Pull-Process

The pull process on this stock brings some of the strength back to the blacks. At one stop underexposed, we have only the slightest hint of milk, and the grain is still solid. At two stops under, we have milk and some grain, but it's not as objectionable as the normal processing at this exposure level. Overall, the image is softer in contrast and tone, but not pastel like the 320T 5277. Fleshtones have a nice smoothness. Two stops overexposed displays nice fleshtones — a little softer chroma than normal, but very pleasing.

Pull-processing only slightly diminished the sharpness. Overall, it behaved similarly along the exposure brackets, only it wasn't quite as sharp in that sweet spot region between normal and one stop under.

Push-Process

Pushing the 500T increased the look of the contrast and chroma closer to that of normal/normal 200T. However, we pick up grain in the midtones, and the blacks fall off much quicker. At one stop underexposed, the blacks are already milking and there is noticeable grain. Two-stop underexposure with the push is the first time we've encountered an image that I would deem unusable for an accurate rendering of a "normal" look. Of course, some of this deleterious effect can be remedied with overexposure, but by two stops overexposed, the fleshtones are a bit blocky and rich in chroma for my taste.

The push did help somewhat with the sharpness in the sweet-spot region compared to the pull process, but there was no significant difference from the normal-processing series.

Vision 800T 5289

Normal Process

In the ever-complex tradeoff of speed versus grain and blacks, the 5289 holds up remarkably well for an 800-speed film. Although generally grainier than the 500T 5279, with normal exposure and processing the 800T produces an image comparable image to the 500T; the blacks are only slightly less tight, almost undetectably so. However, the stock's shortcomings become apparent when we underexpose. At one stop under, the image is almost as milky and grainy as 5279 at *two* stops under. At two stops under, milk is quite apparent, and grain is apparent in the mids and blacks. The stock performs beautifully with overexposure, exhibiting sharp contrast, vivid colors and deep blacks. Grain is dramatically reduced at this end of the exposure wedge.

What is most impressive is the overall sharpness of this stock. At 800 ASA, the film's sweet spot is near the normal to one-stop-over region, and I can make out detail in the #1 ring in both exposures.

Pull-Process

The pulling of this stock softens the fleshtones nicely and also helps maintain the blacks and grain. Only the two-stops-under iteration has noticeably milky and grainy blacks. The overexposure range displays quite a nice palette of contrast, blacks and color saturation.

Pulling this stock diminished some of its sharpness, however. In none of the exposure iterations did I make out detail in the #1 ring like that seen in the normal processing. However, I wouldn't rule out this

process on this stock, because the look of the softer fleshtones is pleasing overall, even with an effective ASA of 400.

Push-Process

As we've seen with all of the films, the true litmus test of any stock occurs when the film is pushed past its recommended limits. Here, even at normal exposure with a one-stop push, there is a hint of milk in the blacks. At two stops under, the image is what I would call complete muck. The blacks are milky blue and we have what can only be described as grain from hell. The moral of the two-stops-under story is that if you want to come to work the next day, don't rate the stock at ASA 6400! However, if you really want to degrade an image, this is definitely one way to go about it. Two stops over matched the quality of the normal process, normal exposure iteration surprisingly well, although the chroma is definitely richer.

The pushing only slightly hindered the stock's sharpness. The sweet spot was still around the normal to one-stop-overexposed region. At one stop over, traces of the #1 ring are still apparent.

CINEMATOGRAPHERS' TESTIMONTIALS

Since the introduction of the Vision color negative line in 1996, the family of films has gained a devoted following among the world's top cameramen. "There is something intriguingly different about the Vision films," says Allen Daviau, ASC. "The 500T 5279, for instance, is substantially finer-grained than 5298, but beyond that, there is also something else that wasn't there before. It has a certain 'pearlescent' quality in the way the transitions are made from highlights into mid-tones that seems smoother. It's difficult to quantify in words, you just realize there is a certain quality in a particular film that makes an edge glow or a shadow fall darker. As a cinematog-

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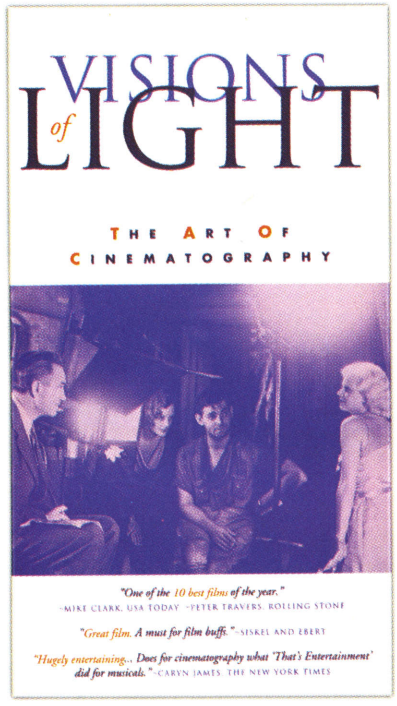

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rapher, you know that you have another option that helps you previsualize how a film will respond to light in a particular scene, and what that will communicate to viewers."

Carolyn Chen was among several cinematographers selected by Kodak to test the Vision 200T emulsion when it was still being developed. In her test, "we wanted to see the latitude that the stock would carry and how it would handle different color temperatures and low light levels." In her test scene, Chen had an actress clad in Victorian-era garb sit in front of a makeup mirror, ostensibly preparing for a shoot. "We then followed the actress from the warmly lit makeup tent, through some dark areas [behind the sets] in different areas of practical lighting, flashbulbs, fluorescents, tungsten lamps and so on, in one continuous take. The Vision 200T held up very well through all of the different extremes. For instance, a white cyc in the scene was lit four stops over, and it didn't flare. The subjects kept their detail. In the hallway area, where it was about two stops under, everything looked really well-balanced as well. The film has a very good contract [range] overall. There's a smoothness in the transition between extremes that reminds me a lot of [the 100 ASA EXR] 5248."

Tom Priestley, Jr. utilized the then just-released Vision 250D on *The Thomas Crown Affair*. He states, "I elected to use the Vision 250D 5246 for daylight exteriors in New York, because [there] you always find yourself running into situations where you're shooting late into the afternoon. With the 250 ASA emulsion, I knew I'd have a good chance of meeting all of our requirements without having to change film stocks. The 'canyons' in New York get pretty dark, but the Vision 250D stock handles overexposure tremendously. In that regard, I'd expose more for the shaded side of the faces, while we'd get some kicks of warmer light off of windows."

"Having a sharper film is important to me," states Vilmos Zsigmond, ASC. "You can always use diffusion or soft lighting to degrade the image, if that's the look you want. For instance, I think the Vision 500T has incredible qualities. You can under- and overexpose it and the grain hardly changes. Even at two stops under, the grain is hardly perceptible. And for certain high-contrast scenes, I'd use the Vision 320T film if it's not convenient to use fill light in the shadow areas."

Oscar-winning director of photography Robert Richardson, ASC, recently utilized the Vision 800T 5289 stock for Martin Scorsese's sepulchral urban drama *Bringing Out the Dead* to help capture the ambience of the city for the film's surrealistic ambulance-mounted shots. Richardson attests that "the 800T was useful, especially when we were filming outside of the main midtown core [of New York City]. Downtown, the light levels at night get pretty low, and the faster [Vision 800T] stock helped us capture some of those streets. [Initially,] I was cautious with the film, because I didn't know what it would look like once it was finally on the screen, but it worked out very well for those shots."

Cinematographer Lowell Peterson, a recent ASC Award nominee for his work on the television series *Profiler* (see page 66), also notes the benefit of added speed for certain low-light situations. "We normally shoot with EXR 5298 and 5293 film on the show," he says. "However, I use the Vision 800T when I don't have enough light at a big location. In fact, whenever I encounter a low-light situation, I use the 800T to dig in and see what's there. The 800T also handles the highlights better than 5298. For instance, if I have bright, fabric-covered lampshades on tables, I can run them much hotter and get the illumination on the faces, yet still photograph them [and have detail]. Also, I find that the 800T cuts very well with 5298, so in that regard it also works out great."

"One of the main reasons why you choose a particular film is speed," concludes esteemed cinematographer Dean R. Cundey, ASC. "You want to know how fast it is, because that will help to determine how much or how little light you need. Sometimes you need a bit more depth of field for a sharper image, a situation that calls for a faster film. [But with a faster film,] the tradeoff has always been grain, which typically shows up as a kind of crawling noise in the shadows. It becomes a surface on the film image that can detract from your goal of drawing the audience into the story. The audience may not notice, but they still react in terms of the overall film. You can measure grain and sharpness objectively, but the grammar of film is subjective. I think the goal of reducing grain in the Vision films has been achieved. They have a cleaner, sharper look." ■

Our heartfelt gratitude is extended to the companies and individuals who made this test possible: Don Henderson and Judy Doherty at Eastman Kodak; Tracy Langan and Frank Kay at Panavision Woodland Hills; Kevin Stople and Dave Golder of Hollywood Rentals; Michael Holmes of Kino Flo; Vickie Curry at Foothill Studio Equipment Rental; Idealease; and Cyril Drabinsky, Ron Koch, Dash Morrison, Tom Kuhn and Mary Quan of Deluxe Hollywood.

Thanks also to our crew: Operator Michael Santy, SOC, camera assistants Kevin Boyle and Ryan Gaw, and model Natasha Milasinovic.

The writers and AC's editors are grateful to Robert Primes, ASC, Allen Daviau, ASC, Denis Lenoir, AFC and David E. Williams for their assistance and input.

Short Takes

A Fast Cat and Faster Winds

Cat Burglar
by Stephanie Argy

In the great parade of Super Bowl commercials this year, one of the most talked about was Mountain Dew's "Cheetah" spot. In the commercial, a mountain biker chases a cheetah, tackles it and reaches all the way down its throat. He pulls out a punctured, empty can of Mountain Dew, and then scolds the animal: "Bad cheetah." One of his friends, watching with other riders from a distance, comments, "That's why I'm not a cat person."

Though the commercial appears simple on the surface, without many obvious visual effects, it was actually quite complicated for director Kinka Usher, cinematographer Max Malkin and their crew. "It was one of those shoots where I walked away not 100 percent sure we had achieved everything we set out to achieve," says Malkin. "That's what made the job more interesting than most."

Shooting on the spot began in early December of 1999, when Usher and ad agency people traveled to Kenya. There, Usher photographed plates of scenery that could be used for the opening of the spot, as well as in the background of other shots. The shoot then continued for four days at Tejon Ranch in central California. Although the crew went into the spot with a fairly solid idea of what they wanted to accomplish, Malkin says they realized that the cheetah would be the great variable. "Any plan was only as good as the cheetah," he concedes.

The cheetah talent was provided by Hayden Rosenaur of the Serengeti Ranch Company in Acton, California. Two cheetahs were actually used: a brother and sister named Shaka and Zulu. "They're the only two working cheetahs in the entire industry," says Rosenaur. He explains that although cheetahs are relatively docile animals, they also tend to be flighty and therefore not well-suited to the chaos of a film set. As Rosenaur notes, "You really have to get them used to not being nervous."

On the bright side, the spot called for the cheetah to run, the very thing the animals do best. In fact, says Rosenaur, in order to stay healthy, cheetahs must run as much as they're willing; he explains that the species nearly died out once, and that all cheetahs are now descended from a very few. "There's no genetic diversity, so they have a lot of health problems," he says. "Running is important to stimulate them and help [prevent] these problems. The running element in the Mountain Dew ad is nothing more than what we do on a daily basis — running them to a lure to stimulate their organs."

Rosenaur has a device — essentially a tennis ball on a winch — that the cheetahs chase. "Anything that moves quickly stimulates their prey drive," he says. "They can't help themselves — they chase anything that moves quickly. A tennis ball works best for us; it's brightly colored and gets their attention quickly." He adds that from a production standpoint, tennis balls are relatively easy to remove if they stray into a shot. "In the entire commercial, the animal is chasing a tennis ball. He's not running from anything."

Rosenaur did worry about how the cheetahs would be filmed. Specifically, he wouldn't allow them to be chased by a camera car, because he didn't know how the animals would react. "We have no control over which way the animals run," he says. "I was really concerned that they might run into the vehicle and get hurt or killed." Fortunately, he could suggest an alternative. On a previous shoot, he had worked with James Rodnunsky, who invented the Cablecam, a system that suspends a camera so it can sail along without ever touching the ground. "It's much more effective and completely safe for the animal," says Rosenaur.

Rodnunsky first began developing

Desperate to retrieve his pilfered can of Mountain Dew from an avaricious animal, a biker chases down the fleet-footed thief in "Cheetah," an eye-catching spot that aired during the Super Bowl.

Images courtesy of Method.

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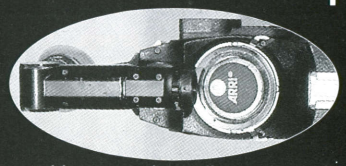

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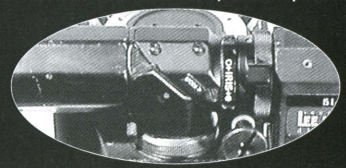

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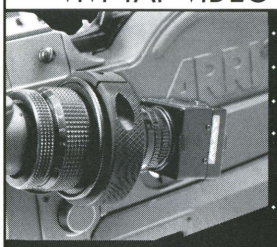

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the Cablecam system in 1987 in order to get footage of skiers and snowboarders for a ski simulator. "Suspending a cable over extreme terrain was the only way to get quality shots of skiers," he says. By 1991, news of the system had spread, and he began getting calls from people in the motion-picture and television industry. The system was soon used on such films as *Hook*, as well as for commercials and sports coverage. In 1999, Rodnunsky won a technical achievement award from the Academy of Motion Picture Arts and Sciences for his invention.

"Basically, the Cablecam is a ropeway suspended between two towers or any two fixed points," says Rodnunsky. "We hang our camera dolly on that ropeway and wirelessly transmit pan, tilt and roll direction to the camera head." The camera can be gyrostabilized or not, though he believes that extra stabilization is necessary only for extremely long-lens shots (which are generally used for sports coverage). Cinematically, he says, Cablecam shots seem to look best with wider lenses.

On the Mountain Dew shoot, the cable was suspended from two towers (45' and 42' high, respectively) that stood roughly 1,800 feet apart. Once the rig was set up, the first priority was to introduce it to the animals. "We flew the camera back and forth, and the trainers walked the cheetahs to let them get used to it," Rodnunsky says, noting that the animals seemed more intrigued than frightened by the device. "At first, their little ears went up and they tracked it like it was something to eat!"

When the cheetahs seemed calm enough, the shoot began: a cheetah chased a tennis ball, and the Cablecam chased the cheetah. "We could follow the cheetah, profile the cheetah, or shoot past the cheetah," says Rodnunsky. "We shot a whole bunch of variations." Everyone agrees that the best shots came early in the day, while the cheetahs were still interested. "They got a little bored with us after a while," Rodnunsky admits.

One of the benefits of the Cablecam is that it doesn't come with any sort of built-in camera, so it can accommodate whichever unit the cinematographer chooses. In this case, Malkin used Arriflexes provided by the Camera House in Van Nuys, California. "We used a handful of 435s," says Malkin. "I believe we shot most of the spot at a 45-degree shutter, and we also used a couple of Eyemos for some stunt work."

The cinematographer says that he and Usher worked at both ends of the lens spectrum: "We were either wide and close, or really long." The wider lenses, he says, were Cooke S4 lenses; on the longer side, he used a Nikkor 300mm, as well as the Hawk-Rodenstock 150-450mm, T2.8 zoom lens. Sometimes, he adds, he even put a doubler on the Hawk-Rodenstock, effectively turning it into a 900mm lens. "That proved to be interesting for the focus puller, with the cheetah running right at us at 65 miles per hour," Malkin says, adding that his first camera assistants, Gilbert Salas and Bob Smathers, were up to the challenge.

Malkin shot primarily on Kodak's EXR 100T 5248 stock, pushed a stop to enhance the contrast. "I think we used some [Vision 250D] 5246 toward the very end of the day as well," he says. The cameraman also used a bit of green filtration. "I used what I call a CC.20, something I like to use on exteriors. It takes that true blue out of the sky and adds a little more green to it." However, in order to keep the shots clean enough for effects work, he had to remove the filter and add the coloration to many shots during post.

The spot features a surprising number of effects that were overseen by visual-effects supervisor and lead artist Alex Frisch and visual-effects producer Sue Troyan of the company Method. Frisch and Troyan were on-set throughout the four-day California shoot to help Usher through some of the spot's technical challenges. Frisch explains, "One of the biggest problems to solve was that it was impossible to shoot the cheetah and the rider at the same time." No human on a mountain bike could keep up with a running cheetah, and even if he could, cheetahs don't like being chased. As a

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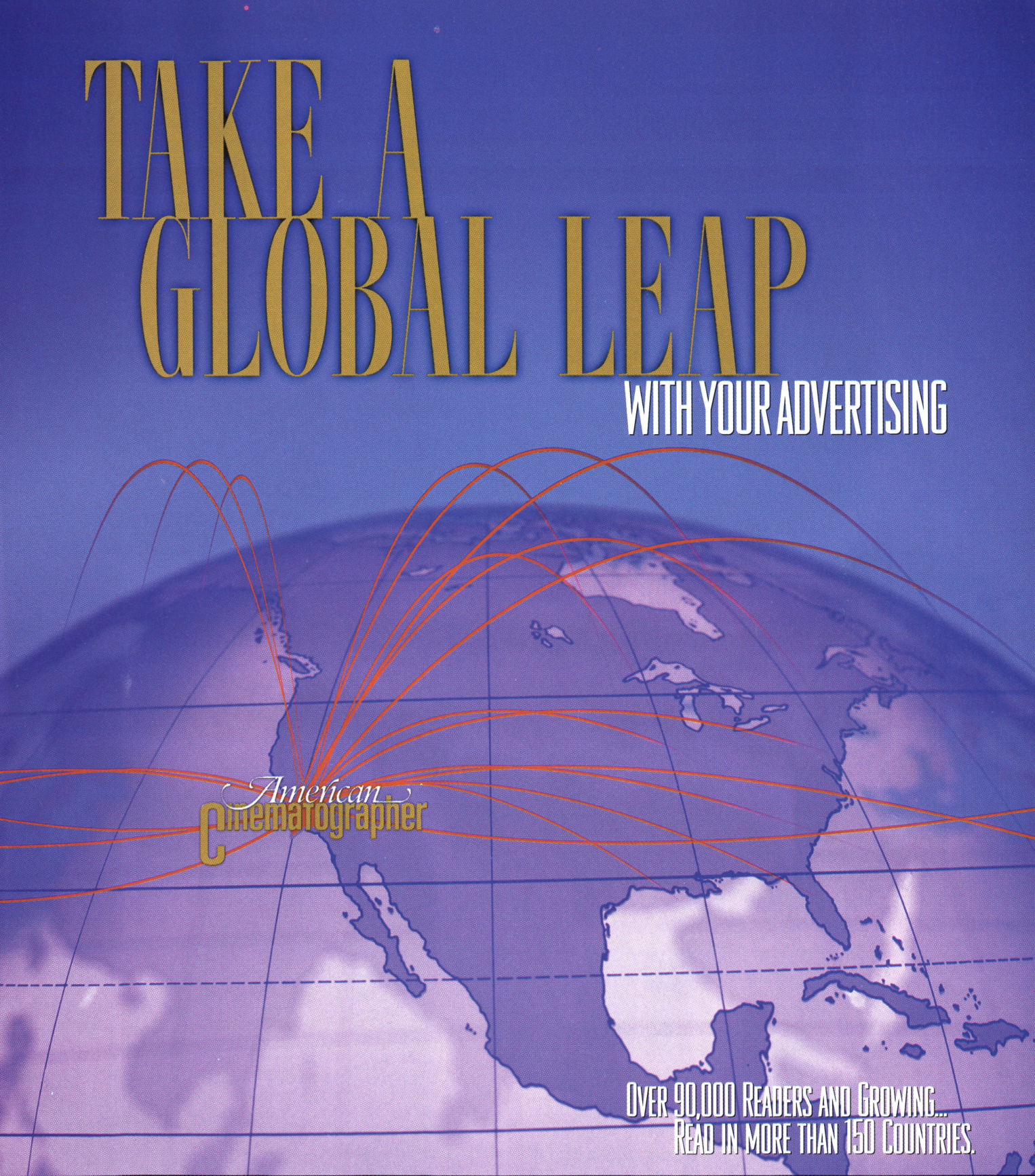

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Alan Lowne, International Representative, Europe
44.1753.650101, FAX 44.1753.650111

result, every time the cheetah and biker appear together in a shot, the image is a composite that was done in post.

These composite images were generally shot first with the cheetah, then again with the rider, matching distance and focal length. For the sequence featuring the rider's jump and his reach down the cheetah's throat, the rider was photographed against bluescreen so he could be extracted more easily. "We shot all of the bluescreen elements on location to match the lighting," says Frisch. "That's a key to the quality of the compositing — plates that really match, lighting-wise."

Another task for Method was transforming California's dry, brown landscape into something more like the green grasslands of Africa. "One of the big differences between shooting in California and Africa is that California is so bare," says Frisch. "In every shot, we really finessed all of the details to try to maintain that African look." Using stills and footage from Africa, artists at Method created background matte paintings, which they then tracked to the movement in the foreground.

One of the most convincing gags in the spot is the moment when the rider leaps from his bike, flies through the air and tackles the cheetah. During filming of the short sequence, three people played the rider: the actor (for close-ups and shots in which the rider's face was visible), a stuntman (for the leap), and Rosenaur, the trainer (for shots requiring physical contact with the cheetah).

Of course, the shot of the rider reaching down the cheetah's throat was also an effect. Footage of a full-sized, stuffed animal made specially for the shoot by Douglas White Effects was blended with shots using the real cheetah. To get the live cheetah to hold his mouth in the proper, tilted-back position, a stick of meat was dangled over his head. According to Frisch, it was still difficult to keep the cheetah stationary as long as necessary for the shot. He explains, "We shot at 60 frames per second to slow the time down." During post, Method artists Olivier Gondry and Andrew Eksner used a proprietary morphing software written by Gondry to extend the shot even more, so the cheetah would appear to have his mouth open wider and for a longer time. In all, Method spent about three weeks on the spot, running three Discreet Logic Infernos and one Flame day and night. "We could never have done the job without a team of eight or nine artists that we have here," he says. "It was really a team effort."

Chasing the Wind
by Stephanie Argy

Chevrolet's new campaign for its S-10 pickup truck features a series of real-life professionals whose line of work matches the tough, reliable image Chevy wants for the truck. Among those appearing in the spots have been a stuntman, a Navy Seal, a bounty hunter, a rodeo rider, and now, Martin Lisius, a cinematographer who tracks exceptionally foul weather.

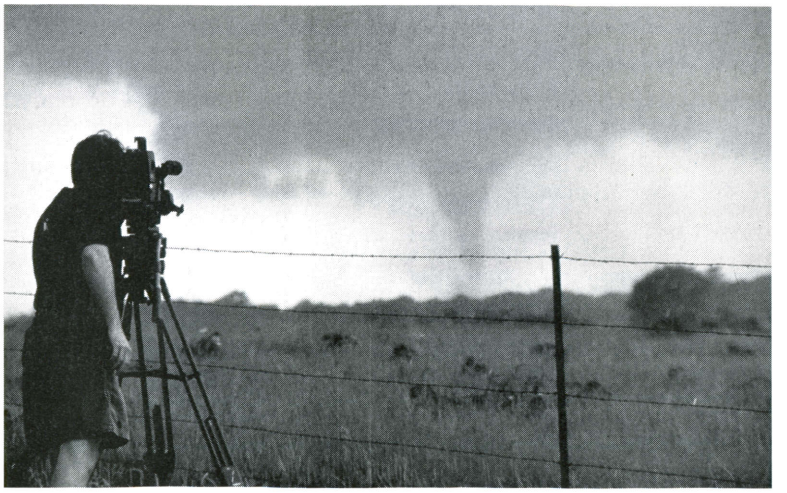
In the latest spot, "Storm Chaser," Lisius is shown pursuing and photographing various kinds of threatening weather, and he says that nearly all of the storm-footage elements — including an enormous tornado shown at the end — were shot by him. "It's about 97 percent real footage," he says. "Digital Domain composited it with the product shots and the location shots."

Lisius lives in Dallas-Fort Worth, Texas, where he runs Prairie Pictures, a production company, and StormStock, a library of extreme-weather footage. To get shots for the library, Lisius goes out about 35 times a year, mainly in the spring, with a 35mm camera and an assistant or two. "The goal in chasing for me is to get a good photographic angle on anything interesting, like a tornado," he says. "I chase from the northern half of Texas to Oklahoma, Kansas, Colorado and eastern New Mexico. Especially late in the season, we'll go farther north — the jet stream lifts north as summer approaches, and with the jet stream goes the tornado."

The central belt of the country, from Texas up to the Dakotas, is known among meteorologists as Tornado Alley. The United States has more tornadoes than any other country, and Tornado Alley has the most of any region of the country. Lisius explains that the conditions necessary to produce tornadoes are very specific: warm, moist Gulf air combined with cool, polar air and dry, desert southwest air. "There's no other part of the world where they come together so regularly," he says.

Lisius shoots mainly with an Arriflex 35-III. "It's made like a tiger tank. I think the Arri 35-III is more durable than any of the storm chasers are. It's an excellent, heavy-duty, rough-and-tough camera, great for this type of shooting."

To reduce the overall weight, the camera is customized with a Nikon mount. "Nikon lenses are substantially lighter than cinema-style lenses," Lisius explains. "Our favorite is a Tamron 28-105, 2.8mm lens. It's lightweight — no more than 2 ½ pounds. An equivalent



Cinematographer Martin Lisius aims his lens at the funnel of a menacing tornado.

Photos courtesy of Praire Pictures.

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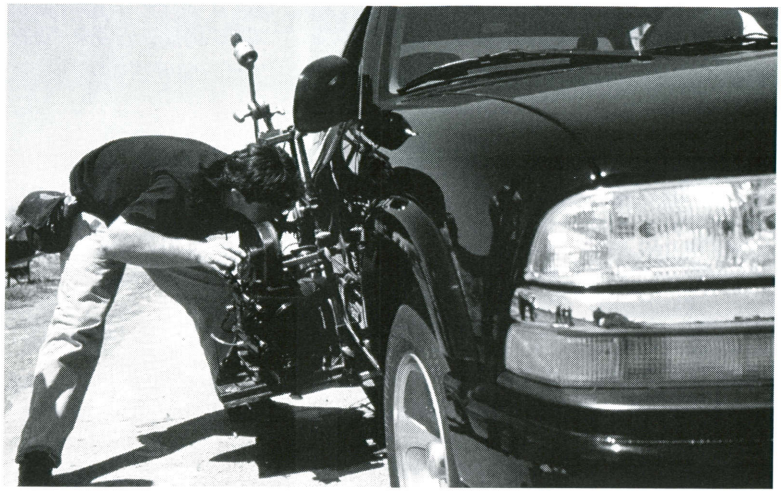

Special camera rigs were used to capture interesting angles from Chevy's S-10 pickup truck.

cinema lens might be 10 pounds."

He also finds the Nikon-type lenses to be very sharp. "I think the reasons more cinematographers don't use them are that it's hard to get accessories for them, and they're not as heavy-duty as a cinema-type lens. You have to take better care of Nikon-type lenses."

The camera also has a NiCad 12-volt, on-board battery. "We've really made the Arriflex [seem] like a pro video camera," he says. The goal is to get the camera shooting as fast as possible, because storms have no patience for slow cinematographers. Lisius packs the camera in a special quick-draw case, with the mag loaded and the battery onboard, so that he can begin shooting almost immediately. "We've pulled up before and seen tornadoes dissipate within 60 seconds," he says. "[We therefore can't let] more than one minute pass from the moment we stop the vehicle to the moment we roll film."

Lisius photographed the big tornado shown at the end of the spot on May 30, 1998, in Spencer, South Dakota. The funnel lasted for about 12 minutes, and he shot an entire mag of footage. While Lisius was shooting, the tornado cut through the center of town, killing six people.

Chasing tornadoes is certainly risky, but not necessarily because of the twisters themselves. "Probably the most dangerous thing is all the driving we do," he says. "Next is the danger of being struck by lightning, [which is] greater than being killed by a tornado, because there's no warning. Another risk is flash-flooding, especially near low-water crossings." As for the tornadoes themselves, he makes sure to stay far enough away to remain safe. "Tornadoes are big, and if you're out on the prairie, you can be three, four, or five miles away and still

get an excellent shot."

In the commercial, Lisius's own photography was combined with foreground shots of him that were shot in the Lancaster/Palmdale area north of Los Angeles. "The actual shoot was pretty dramatic," he remembers. "It had a helicopter, effects fans blowing debris, a crane that dropped a mobile home, and a house that exploded. It was like a miniature version of the *Twister* shoot."

The ad's cinematographer was Tobias Schliessler, who worked with director Antoine Fuqua. Schliessler says that to establish the look for the spot, he and Fuqua began by looking at the background footage shot by Lisius. Schliessler then tried to figure out what to do for the foreground. He says, "My lighting approach basically involved trying to give the spot as much contrast as I could between dark and light areas, like there would be in a storm. I lit things as they would be in a situation like that. Of course, I would always take the sun away."

Ritter fans simulate the devastating wind produced by a full-blown twister.

Schliessler kept the ambient light down as much as possible by using silks, blacks and negative fill. "I like taking lighting away, then using reflector boards," he says. "Outside, in daylight, I try to use as much natural lighting as I can." To create the right sort of muted light, Schliessler turned to silver lamé and white muslin stretched over 12' x 12' frames. When he had to have lights, he used HMIs, including an 18K and — for the insert car — 4K Pars.

To enhance the contrast as much as he could, he also applied a bleach-bypass process at the lab. "We wanted to make the look of the spot a bit grittier," he explains. Of course, processing the film this way made him shoot it differently, too. "When you use bleach-bypass, the film overexposes more

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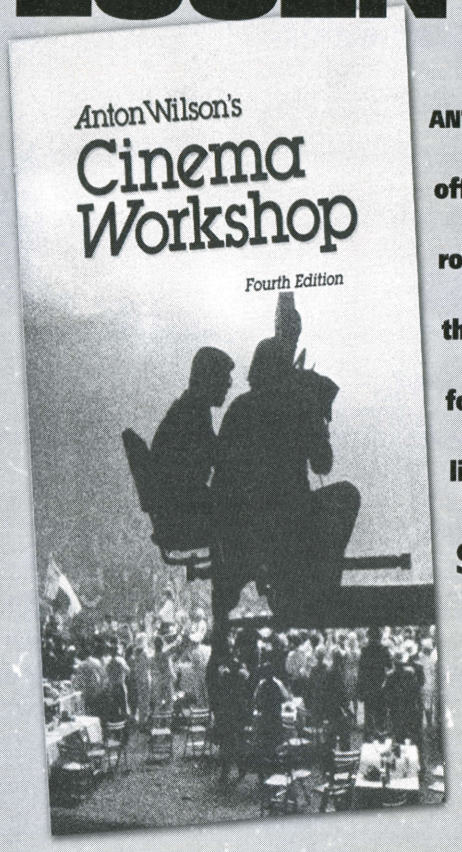

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easily. You basically gain a stop, so you have to underexpose a bit to keep the whites down and to keep the imagery a bit darker."

Schliessler's film stock was Kodak Vision 200T 5274. "I feel that the 74 is a good stock if you use bleach-bypass-which increases the grain," he says. At the same time, he finds that lower-grain films, such as Kodak EXR 5245, are too contrasty when combined with the bleach-bypass process. "I wanted to have mid-range contrast and grain."

To keep the bright parts of the sky from burning out, he also used filtration in front of the lens. "I used a polarizer to darken the sky," he says, "as well as a lot of neutral-density Schneider grads." He calls himself a big fan of Schneider filters, mainly because of the quality of the glass. But he's quick to add that he doesn't consider himself a very technical person. "I just go by what feels right," he says. "I approach photography and lighting very intuitively. Everything kind of falls together."

Schliessler's career has included feature films as well as commercials. "I find that in a commercial, there's quite a challenge involved in creating different looks. Visually, you've got to be a little bit more on the edge." With only 30 seconds to convey a story or a feeling, the impact of the photography has to be immediate.

While Schliessler notes that camerawork in feature films is generally more subtle, because one has more time to establish a look, he finds that some techniques from commercial cinematography can translate well to features. After the Chevy shoot, for example, he and Fuqua went on to do *Bait*, starring Jamie Foxx. In some of the movie's action sequences, Schliessler used a trick from the Chevy spot: he engaged the shutter, so that the film ran through the gate without the shutter. "When there's a highlight, it streaks, because the film gets exposed as it runs through the gate," he says. "It's definitely an effect, and you don't stay on it for too long, but for quick cuts it can be quite subtle. I would have never thought about trying that if I hadn't done commercials." ■

New Products & Services

compiled by Douglas Bankston

Monitor by FireWire

California-based Synthetic Aperture has released Echo Fire, a PAL- and NTSC-compatible digital tool for Macintosh computers that brings accurate video previewing on a separate video monitor via FireWire to Adobe After Effects and Photoshop. Computer monitors make it difficult to properly evaluate video projects because of the lack of interlacing and overscan and gamma and color encoding differences as compared to a video monitor. Enter Echo Fire.

"With built-in FireWire ports on the Macintosh G3 and G4 systems, you get true video previewing without needing another PCI slot, which also provides an excellent solution for PowerBook systems," says Robert Currier, president of Synthetic Aperture.

Echo Fire displays the current composition in After Effects and the current document in Photoshop, regardless of pixel aspect ratio or composition size. Besides previewing projects on a video monitor, Echo Fire can also overlay test and diagnostic information on the preview, including waveform monitor, vectorscope, safe action and title-area limits and a variety of color-bar test patterns. Echo Fire can evaluate the video signal, verify overscan limits and calibrate the video monitor, all with the same tool. When working with 16:9 anamorphic video, Echo Fire will perform an aspect-ratio conversion to provide an undistorted display with a choice of cropping or letterboxing.

Echo Fire provides a QuickTime export module so digital video and audio can be exported out the FireWire port using QuickTime Player or another application that supports QuickTime movie export. Echo Fire also provides a special Video Color Picker for use in After Effects, Photoshop and other graphics programs that previews a project's color choices on the video monitor to exactly what the color will look like — if there are any "illegal" colors that exceed broadcast limits, the program will "legalize" the flagged color with the touch of a button. (Previewing through QuickTime Video Output Components can be found in such video cards as Pinnacle's Targa 1000 and 2000, for example.)

Echo Fire is available for PowerPC-based, Macintosh systems and is compatible with Adobe After Effects 4.0 and later and Photoshop 5.0 and later. Mac OS 8.1 or newer is required with QuickTime 4.0 or later. The video output device must have a QuickTime Video Output Component. A DV camcorder or media converter is required.

Synthetic Aperture, (949) 493-3444, e-mail: sales@synthetic-ap.com, Web site: www.synthetic-ap.com.

Tape-Recycling Center Moves

Express Video Supply recently relocated to a new, larger facility in the Burbank media district in Southern California. EVS provides recycled videotape, as well as new audio- and videotape, 16mm and 35mm motion-picture film and a full line of production accessories. EVS offers free tours of its recycling center to the public.

Express Video Supply, Inc., 1620 Flower St., Glendale, Calif., (800) 238-8480 or (818) 552-4590, fax (818) 552-4591, e-mail: evstape@ix.netcom.com, Web site: www.evstape.com.

The Online Production Hub

ProductionHUB, Inc. has launched on the Internet. ProductionHUB is a specialized search engine consisting of the largest national, online database for film, video and digital-media production. Says John Pokorny, general manager of the Web site, "For the first time in history, virtually every segment of the production community can be accessed using just one resource."

ProductionHUB is designed to promote commerce, create community and host content. Companies can utilize the Web site to strategically market their expertise, develop beneficial partnerships and gain greater national competitiveness. The site also serves as a nationwide medium for individuals to develop peer relationships, through which they can confer on projects, discuss issues and share ideas.

The site's national directory currently has 65,000 listings and is growing rapidly. The listings are free to all companies and individuals in film, video and digital-media production and can be updated immediately. The free listings can include annual e-card services, as well as banner- and button-advertising opportunities.

Industry news is provided on the site by The Hollywood Reporter, and the site offers links to other sites, articles by industry leaders, classified advertisements, job postings and other industry-related information.

ProductionHUB, (877) 629-4122 or (407) 629-4122, Web site: www.productionhub.com.

CinemaNow on the Internet

CinemaNow.com, an interactive entertainment and virtual film studio backed by Trimark Pictures, has launched on the Internet. CinemaNow links independent film watchers to indie filmmakers and offers access to the resources of an independent production company. The site presents filmmakers with achievable expectations for production deals and distribution, as

well as access to production resources and networking opportunities.

Film viewers are able to watch theatrical and short film entertainment that will be distributed directly through streaming video technology. The site's growing film library includes the Trimark collection, 400 Hong Kong titles from Tai Seng Home Video, and others.

Visit CinemaNow at: www.cinemanow.com.

All Bids Welcome

Motion-picture, broadcast-video and audio equipment of all kinds is available to the highest bidder in cyberspace on the new LA411AUCTION.com Web site — but without the fast-talking auctioneer. In addition to the extensive amount of production equipment, other auction items include production supplies, expendables, props and even set and wardrobe pieces from a broad range of sellers, such as film studios and production suppliers.

The auction Web site was launched in January by LA 411, publishers of the annual *LA 411* reference directory. The items are available for bidding by companies and individuals alike, be they professionals or enthusiasts. LA411AUCTION.com is associated with several entertainment industry-related charities. Sellers can designate proceeds from any item they have listed as a donation to the charity of their choice. However, the initial charity featured on the site is the Motion Picture & Television Fund, a health-care and social-service organization serving the entertainment community.

Hollywood memorabilia and collectibles will also be offered on the auction site, which will allow entertainment companies to promote licensed products, merchandise and event tickets, as well as notable props, scenery and wardrobe pieces from well-known motion pictures and television programs.

"LA411AUCTION.com will help the entertainment industry better liquidate items that normally get lost in the shuffle at the end of a production, or which simply go into permanent storage or waste," says Giles Goodhead, publisher of *LA411* and CEO of the auction site. "Producers and studio executives will now be able to recoup expenses after production simply by selling off items and gear that normally would disappear or depreciate on backlots. Smaller companies, theaters, schools and others in the industry can take advantage of these lower-priced goods, bargains and surplus items."

To begin the bidding frenzy, visit the Web site at www.la411auction.com.

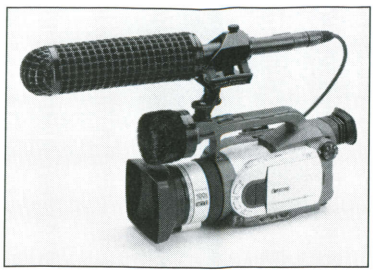
Easy Camera Support

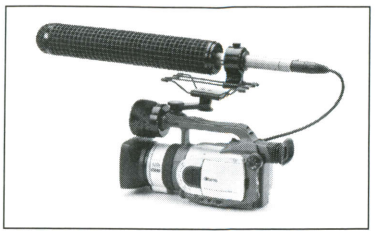
Band Pro Film/Video of Burbank, California, has introduced the EasyRig, a lightweight, portable camera-support system that reduces the static load to an operator's neck and shoulder muscles by redistributing camera weight to the hips. EasyRig provides the speed and mobility of a handheld camera without sacrificing steady shots. The system consists of a support arm, rugged overhead support tube, camera connector, back pad, back support bar and hip belt. The specially designed suspension line/shock absorber can be ordered to handle a load from 11 to 55 pounds. The system accepts lightweight digital cameras, professional Betacams, and 16mm and 35mm film cameras. The system's shock absorber can be easily changed to suit other loads when switching cameras.

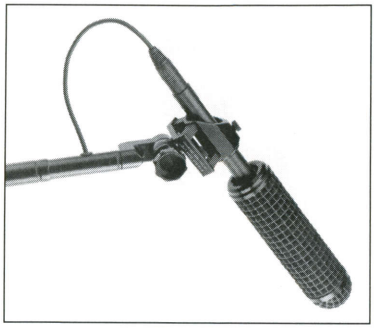
Band Pro Film/Video, Inc., (888) BAND-PRO or (818) 841-9655, fax (818) 841-7649, e-mail: info@bandpro.com.

Camcorder Audio

Light Wave Systems of Chatsworth, California, which recently won a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences for the design and development of its microphone windscreens and isolation mounts, has released three precision adapters for the mounting of microphones on video cameras. The Universal Shoe Carriage, Universal Mini-mount and the Plus-20 Mini-mount adapters allow the mounting and isolation of quality microphones for superior audio acquisition with the new breed of DV and other high-end camcorders, as well as boom poles.







The Universal Shoe Carriage fits into the standard camera shoe on the camcorder. The unit has a 2.25" swivel arm to allow positioning of the Universal Mini-mount or Plus-20 Mini-mount at the most comfortable position.

The Universal Mini-mount is recommended for holding short or medium microphones, such as those used for interviews. The mount isolates the microphone from camera and lens noise and mike boom-handling noise.

The Plus-20 Mini-mount holds all medium or long microphones up to 30mm in diameter. Patented flat plane isolators provide a soft ride, while the long fore and aft stance gives a firm positioning for long and heavy mics. Ideal for recording distant sounds, the system is 20dB quieter than the Universal Mini-mount.

Light Wave Systems, (818) 727-9900, Web site: www.lightwavesystems.com.

Digitally Dynamic Nagra

Nagra USA has updated its digital tape recorder in the form of the Nagra-D

II. The latest version is equipped with the latest 24-bit A/D and D/A converters, which allows a dynamic range of 115-120dB, and includes the 96kHz sampling frequency on board. A new generation rotary scanner has been added, as well completely new, high-precision entry and exit guides, resulting in lower tape tension across the scanner; this means less oxide shed from the tape, lower tape wear, longer head life for the rotary heads and fewer errors.

A new longitudinal head block is coupled with the scanner. The time code/cue track head and the control track head are now separated, which allows the possibility of inserting time code on an already-recorded tape or time code re-striping during postproduction. The durable heads are manufactured from amorphous glass metal.

The front panel has been redesigned. The phase switches have been removed, and this feature can now be accessed entirely by software in the "Phase Src" menu. The filter switches have been replace with recessed toggle switches to avoid any accidental modification. A "SLOPE" selection replaces the original phase selectors and allows the user to select the type of response curve required on the filter, which can be 6dB or 12dB per octave. The toggle switches can be protected by sliding the cover across them.

Nagra has also introduced the new NADCOM for Windows software, which has many advantages over its DOS-based predecessor. The new software allows multiple windows to be open at the same time, and error reports are automatically generated. The software runs on Windows 95 or NT and is available on 3 ½" floppy disk.

Nagra USA Inc., (615) 726-5191, email: mail@nagra.com, Web site: www.nagra.com.

New Print Stock and Chemical Soup

Eastman Kodak has introduced a new black-and-white, motion-picture print film designed for improved performance and reliability. The Black-and-White Print Film SO-302 has an Estar

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base and is available in 16mm and 35mm formats in 1,000- and 2,000-foot rolls. (Lengths of 4,000 and 6,000 feet are available as special orders.) The film can be used for feature-film release prints as well as film archiving and restoration. The SO-302 runs cleaner and smoother through the latest projectors. The film is designed to be printed in high-speed printers without abrasion, breakage or scratching. The superior keeping quality of the film's Estar base significantly benefits archivists.

Kodak's Professional Motion Imaging division has released a new, pre-mixed chemical kit for processing and developing color motion-picture print films. The ECP-2B kit is designed to provide consistent chemical mixes for film laboratories that provide printing services.

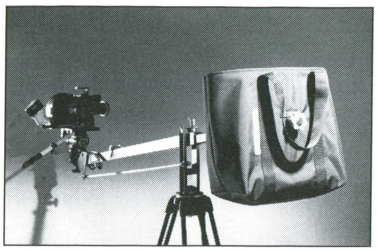
"These kits are designed for smaller labs or those that want an alternative," says Marian Herz, Kodak's manager of product marketing. "They are in liquid-concentrate form, which makes them easier to handle and makes in-line dilution possible."

Kodak ECP-2B kits are designed for use with Kodak Vision color-print films. Visit Kodak's Web site at www.kodak.com/go/motion.

New Block Battery

After two years of intensive designing, Lentequip Inc. of Toronto recently released a new block battery for the motion-picture industry. The virtually indestructible battery block has protected connectors, dual switchable voltages, a true battery-capacity indicator, and interchangeable, precisely fitted parts. It is also the smallest block battery that will fit in all Fisher dollies. New cell-pack inserts can be obtained directly from Lentequip to make re-celling easy (using only an Allen key). The unique battery-capacity indicator gives the user a true measurement by measuring the incoming charge versus the outgoing drain, and is therefore totally independent of battery voltage.

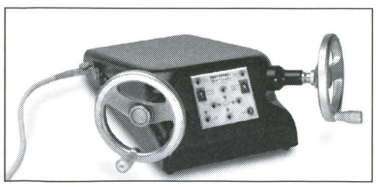
Lentequip Inc., (416) 406-2442, email: info@lentequip.com.



Bag of Relief

Long Valley Equipment's Jib Bag helps prevent back strain caused by lifting heavy, steel, barbell plates used to counterbalance the camera and fluid head on a jib. You can fill the semi-rigid, heavy-duty bag with sand, rocks or gravel on location, then empty it for travel. The unique, through-center design, combined with the proprietary bar clamp, keeps the bag from swaying and swinging so that shots are smooth and controlled. The Jib Bag works with any jib that has a standard 1" weight bar. For storage, the bag collapses down to only 2" thick and can double as a standard tote bag for other gear.

Long Valley Equipment, (908) 876-1022, fax (908) 876-1938, Web site: www.longvalleyequip.com.

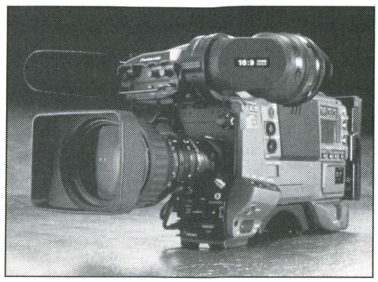


Geared Heads on Remote

Hot Gears, from director of photography Mehran Salamati, is a digital microprocessor controller that can be attached easily to Arrihead I and II, Panahead and Super Panahead geared heads. The versatile remote system installs in less than 10 minutes. The system has a capability of 60 seconds of real-time record and playback. By utilizing its microprocessor, Hot Gears will self-calibrate and continuously match the exact position of the wheels and motors to yield a repeatable position as the operator turns the wheels. It also has the ability to compensate for out-of-balance situations.

The system allows a geared head to be attached upside-down to place the lens as close to the object as possible. Hot Gears ensures that the camera comes to a safe, soft stop before the geared head runs into its mechanical end by allowing the operator to set user-defined limits. A single umbilical cable, which can provide camera power and remote on/off capabilities, connects the camera to the controller.

Salamati Productions, (310) 455-7201, Web site: www.hotgears.com.



Aspect Ratio of Choice

Panasonic has released the AJ-D610WA 16:9/4:3 switchable, ⅔-inch IT 3-CCd camcorder, which provides the capability shooting in either a 4:3 aspect ratio or a 16:9 widescreen format. The AJ-D610WA combines high-sensitivity ⅔-inch, 520,000-pixel IT 3-CCD chips with DVCPRO's digital component recording quality. Any footage shot in the DVCPRO format with the camera can be played back in high-def resolution using Panasonic's new AJ-HD150 VTR deck.

The AJ-D610WA can record up to 66 minutes of footage using 10-bit digital signal processing with a signal-to-noise ratio of 55dB and a minimum illumination of 0.5 Lux. The camera consumes less than 24 watts of power and weighs 14.5 pounds in ready-to-shoot condition. The camera accepts a wide variety of ⅔-inch lenses.

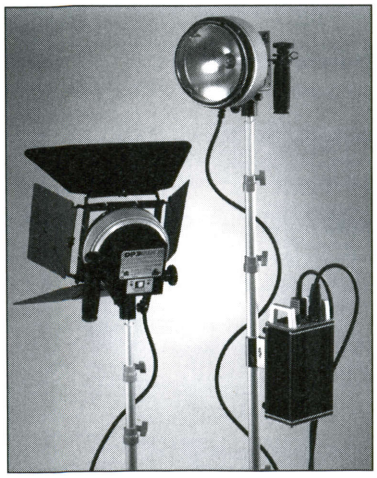
Field production-oriented features include Super Gain to boost gain by a full +36dB for shooting in dim light, and Super Iris to adjust the iris for the correct exposure of backlit subjects. A programmable, three-position gain switch allows the operator to select from 11 settings for complete control of low-, medium- and high-gain preferences. The camera

has a six-speed electronic shutter ranging from 1/100 to 1/2000 per second and features a Synchro Scan to reduce flicker when photographing CRT displays. A four-position Neutral Density and color-correction optical filter wheel (with 3200°K, 5600°K+1/8ND, 5600°K, and 5600°K+1/64ND) allows quick adjustment to the ambient light source. White and black balance levels are preset, and there is storage memory for two other adjustment values.

Panasonic's Picture Link is offered as an option to store shot logging in the camera memory; it records it on tape during the eject cycle, to be later read by the newsBYTE DVCPRO nonlinear news-editing system after clip transfer to the system's internal hard disk.

A PCMCIA memory card is included for storing camera setups of different shooting conditions. Other features include a 1.5-inch viewfinder, color bar generator, time code generator/reader with in/out connectors, genlock, monitor speaker, and phantom power supply. A bayonet mount for 2/3-inch lenses is standard. The camera is equipped with a gold-mount plate for mounting an Anton/Bauer digital-battery system. High performance 1.5-inch and 2-inch 16:9 optimized viewfinders are optional.

Panasonic Broadcast & Television Systems Company, (800) 528-8601.



Compact Daylight

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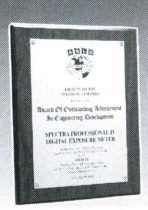

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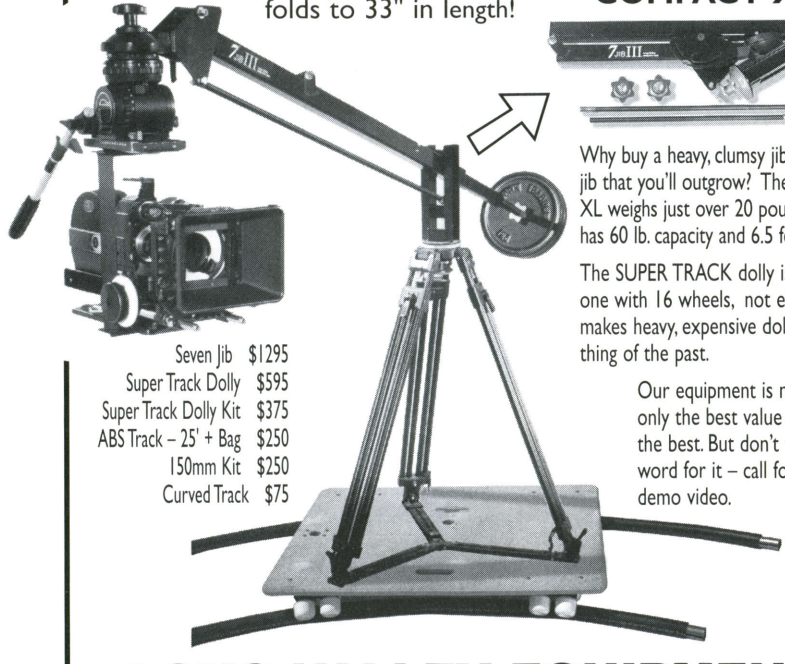

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Lowel-Light Manufacturing, Inc., (800) 334-3426 or (718) 921-0600, fax (718) 921-0303, e-mail: info@lowel.com, Web site: www.lowel.com.

Tubular Lens System

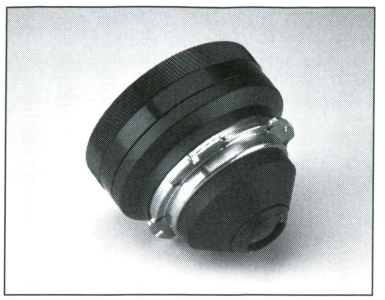
InnoVision Optics has introduced the Probe II Plus Lens System, a top-of-the-line tubular lens system that allows operators to shoot from extremely low perspectives. Incorporating a 15"-long lens barrel with a diameter of just 1.7", the Probe II Plus provides numerous shooting possibilities. The optics are treated with multiple coatings to yield sharp, low-dispersion images for 35mm, video and high-def production.

The completely waterproof Probe II Plus is available in interchangeable Straight and 90° Periscope attachments.

InnoVision Optics, (310) 394-5510, fax (310) 395-2941, Web site: www.innovision-optics.com.

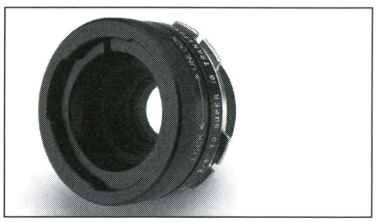
Twice the View

Century Precision Optics has introduced a new 2X Extender for Super 16 lenses. The 2X Extender employs state-of-the-art optics ideal for increasing the range of Super 16 zoom lenses, such as Angenieux's 11.5-138mm and 7-81mm; Canon's 11.5-165mm, 11.5-138mm and 7-63mm; and Zeiss's 11-110mm.



The 2X Extender attaches to the rear of a Super 16 lens, thereby doubling the focal-length range and increasing the f-stop. For example, when used with the 2X Extender, Angenieux's 7-81mm f2.4 lens becomes a 14-162mm f4.8 lens.

Featuring an anodized aluminum and stainless-steel housing, the 2X Extender is constructed of the same multi-coated elements used in all Century Precision accessories.

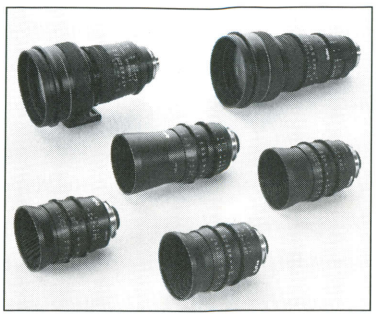


Also from Century is the new Century Transformer, which allows the use of broadcast-quality, 2/3" video zooms on Super 16 cameras, including the Arriflex SR series as well as Aatons. The compact Transformer operates through optical compensation, eliminating the need to modify the lens. A cable allows servo zooming with the original zoom len's rocker control. The Transformer is available in Arri PL, Arri Bayonet and Aaton mounts.

Century Precision Optics, (818) 766-3715, fax (818) 505-9865, Web site: www.centuryoptics.com.

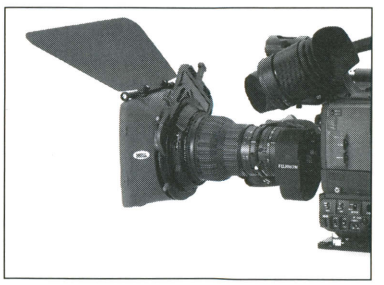
Prime High-Def

OpTex has made available its expanding line of HDEC mid-range prime lenses for HDTV 2/3" cameras and SDTV systems such as Digital Betacam and DVCPRO. The current range consists of the 40mm T3, 50mm T3, 80mm T2.8, 150mm T3, 200mm T2.3, 300mm T3.2, and 120mm T4.5 macro lens. The HDEC prime lenses have a low-reflecting, acrylic, black finish, and the iris scale is calibrated in T-stops while the focus scale is engraved in both feet and meters. The lenses also feature built-in,



0.8 modulus gear rings compatible with studio follow-focus rigs, fluid drive units and motorized control systems. Also available are 1.4x and 2x range extenders.

OpTex, +44 (0)20 8441 2199, fax (sales) +44 (0)20 8449 3646, fax (rentals) +44 (0)20 8364 9235, e-mail: info@optex-int.com, Web site: www.optexint.com.



New Matte Box

The new Shade FX II Matte Box is available from ProSource. The matte box features two independently rotating filter compartments that provide camera operators with greater flexibility when using filter combinations such as a polarizer and color grad. Incorporating a fixed matte within its hood and lightweight carbon-fiber filter frames, the Shade FX II can be used with all broadcast and industrial internal-focus lenses in both 4:3 and 16:9 aspect rations down to 5.0mm. A rail adapter and universal lightweight support are available as options for external focus lenses.

The matte box is constructed of molded carbon fiber and machined aluminum and weighs less than 18 ounces. Other available accessories include side flags, lens adapter rings of

various sizes, filter frames, support rails and transport cases.

ProSource, (203) 335-2000, fax (203) 335-3005, Web site: www.prosource-bmi.com.

Fresnel Softbox

Photoflex has released the new CineDome Pro softbox for Fresnel lighting in studio and on-location settings. The CineDome Pro is designed for photographers working with Fresnel lights; it features a 50 percent deeper build compared to regular softboxes in order to match the narrow projection angle of a Fresnel light source and eliminate hot spots. The softbox is made with patented Brimstone Technology to combat the heat generated from lighting sources of up to 2000 watts.

The softbox includes an internal baffle that has been enlarged and moved forward for more effective use of the double diffusion system. The face casts a soft, even spread of light; the recessed, removable face allows for maximum control over the light and easy attachment of louvers, barn doors and grids. Compatible with all major light source manufacturers, the CineDome Pro is available in small (16" x 12" x 22"), medium (24" x 32" x 27") and large (36" x 48" x 36") sizes.

Photoflex Products, Inc., (800) 486-2674, e-mail: photflex@photoflex.com, Web site: www.photoflex.com.

The Big Easy Fest

The Cinema 16 Independent Filmmaker's Showcase, the competitive division of the New Orleans Film Festival, has announced a call for entries for the 2000 festival, which will take place from October 13–19. Entries shot on any format must have been completed no earlier than January 1998. The festival will show works in 35mm, 16mm with optical track, Super 8mm, ½" SVHS, ¾", and Beta. (All video is NTSC.)

The deadline for entry is June 1, with a late deadline of June 15. Instructional and industrial films are not eligible, and neither are works that will air in the New Orleans area within six weeks of the festival. Foreign entries are

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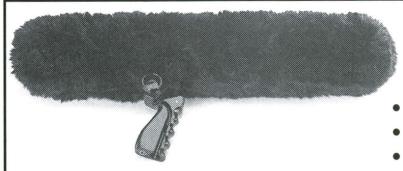

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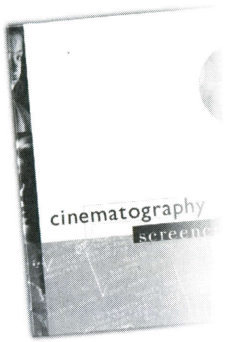

Cinematography Screencraft

by Peter Ettedgui

The 17 directors of photography profiled in this book encompass three generations of filmmaking, representing a wide range of visual styles — from *The African Queen* to *Delicatessen*. Lavishly illustrated with over 500 color pictures, 300 black-and-white photos, and numerous diagrams, this reference features informative accompanying text based on interviews with each cinematographer. This is a perfect book for practicing professionals, students, and movie buffs alike.

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For more information: Cinema 16, New Orleans Film Festival, 225 Baronne St., Suite 1712, New Orleans, LA, 70112, or call (504) 524-5271.

Kids Fest

The 2000 Chicago International Children's Film Festival (CICFF), scheduled for October 12–22, is accepting entries. Live-action and animated films, videotapes, and television programs for children ages 3–13 are eligible. Criteria include high technical and aesthetic merit, content that speaks to culturally diverse audiences, and subject matter that is humanistic, non-exploitative and non-violent. Entries must have a production copyright date of 1998 or later and be dubbed or subtitled in English, and they must be submitted by May 31.

For entry forms and guidelines, contact Chicago International Children's Film Festival, c/o Facets Multimedia, 1517 West Fullerton Ave., Chicago, IL, 60614, or call (773) 281-9075, fax (773) 929-0266, e-mail: kidsfest@facets.org, Web site: www.cicff.org.

Flavorful Film Fest

The 14th annual Wine Country Film Festival, a competitive and non-competitive international showcase of feature films, shorts, documentaries and animation, has announced a call for entries. Taking place July 20–August 13 in Napa and Sonoma Valleys north of San Francisco, the festival is accepting entries of all genres in 35mm, 16mm and video formats. Awards will be given for Best First Feature, the David Wolper Best Documentary, Best Short and Audience Choice, among others. Entry deadline is June 1.

Wine Country Film Festival, P.O. Box 303, Glen Ellen, CA 95442, (707) 996-2536, fax (707) 996-6964, e-mail: wcfilmfest@aol.com. ■

Points East

GreeneStreet Films' Founders Do It Their Way

by Eric Rudolph

It was legendary New York-based director Sidney Lumet who inspired John Penotti to seek more satisfaction from his nascent career as a movie producer. Following his mentor's example, Penotti teamed with actor Fisher Stevens and entrepreneur Bradley Yonover to form GreeneStreet Films, Inc. (GSF), a production company Penotti says is dedicated to breaking away from the creative interference of studios, producers and investors. Founded in 1996, the company's mission is to make 35mm features, digital projects and television shows with high production values and modest budgets, free from outside interference.

GSF has recently been healthily subsidized with private equity funding, and it has so far produced three released features: *A Price Above Rubies, I'm Not Rappaport* and John Turturro's critically acclaimed *Illuminata*. The company is about to begin shooting *Bathing Suits*, the first collaboration between writers Buck Henry and Charles Webb since 1967's *The Graduate*. Currently in postproduction are *Famous,* a digital-video (DV) production directed by Griffin Dunne and co-produced by Oscar-winning actress Mira Sorvino; *Company Man*, directed by Doug McGrath (*Emma*), which is set for release by Paramount Classics later this year; and *Sam the Man*, directed by Gary Winick and starring Stevens and Annabella Sciorra.

Located in New York's trendy TriBeCa neighborhood, the company's headquarters (which offers 25,000 square feet of space) includes production-office facilities, a digital recording studio and digital film-editing suites. The space also functions as an unofficial production base for people Penotti terms "friends of the family," such as actor/directors Dunne and Rob Morrow, and the feature division of Wind Dancer Films.

Top: Actors Romany Malco and Sylvie Testud confer on a bridge in a scene from *The Inherited Château*, a forthcoming feature produced by GreeneStreet Films and shot on digital video. Bottom: Actor/director Griffin Dunne monitors progress on *Famous*, another DV feature produced by the company. The project is now in postproduction.

Top photo by Jesse Peretz, bottom photo by Bridget Besaw-Gorman, courtesy of GreeneStreet Films.

Penotti says that GSF was borne partially out of frustration; he and Stevens felt that the opportunities they were encountering in their careers were not the types of projects for which they had studied and worked so hard. He offers, "Our instincts told us there was more we could do — that there were different, more interesting ways to tell stories onscreen."

Working with the prolific and widely admired Lumet (who has made almost 50 films during more than 40 years as a feature director) was a major inspiration for Penotti, who graduated from production assistant to assistant director during his time with the director. When he considered starting GSF, he reflected on what he had learned during his time with the respected filmmaker. "Sidney does some things no one else does. Burtt Harris has functioned as producer *and* first assistant director on several of Sidney's films [including *Q & A, Garbo Talks* and *Deathtrap*]. The success of that arrangement proves that there is no reason for the traditional disconnect between the producer's and director's concerns. Within the Harris-Lumet model, decisions can be made quickly, compared to the typical levels-upon-levels of producers you find on big feature films. In that traditional mode, problems are usually solved by throwing more money at them.

"Burtt Harris not only inspired me, but also sponsored me as an assistant director," Penotti notes. "On *Q&A*, we scouted locations with cinematographer

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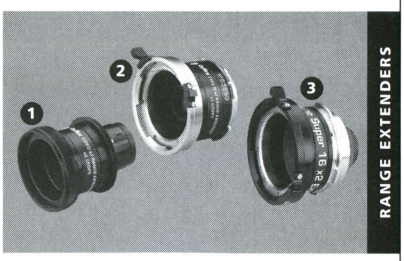

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Andrzej Bartkowiak, ASC [*Speed, The Verdict, Prince of the City*], for seven or eight months before production began. When we got on the set, Sidney had already chosen camera angles and lenses. This information had been passed on to the art and costume departments. They, in turn, knew when Sidney needed someone in full costume or if just the top of the costume was sufficient. You can save a great deal of time and money that way, as long as you don't get carried away. For Sidney's *A Stranger Among Us*, on which I was an assistant director, we did 52 setups — including a car crash — in one seven-hour day."

In addition to its attempts to make movies on film as efficiently as possible, GSF is embracing the DV approach to feature filmmaking. However, the company does not simply look at this less-expensive alternative as a way to avoid the high costs of conventional film production. "We talk about the aesthetics of digital-video filmmaking every day at GreeneStreet," Penotti explains. "We got involved with digital capture through our conversations with Harris Savides, ASC [*The Game, Illuminata*], who turned me on to the options of digital video a few years ago. He and I talked about how you can manipulate the image and move about so easily with the small cameras. Harris is one of the best cinematographers working today, but he also appreciates the storytelling possibilities of alternative media."

Those possibilities are significant, as the producer has found. "Digital video presents a unique opportunity for filmmakers to develop a new aesthetic, and to stretch creatively beyond the limitations of film. It also provides a financially viable way to tackle projects that might be considered too risky by traditional industry standards," Penotti says. He stresses, however, that GSF is still devoted to making movies using film. "We are film buffs [who have] no intention of overthrowing the established, 35mm filmmaking aesthetic, which we absolutely love. However, we've found that digital can sometimes work better than film with certain kinds of story material. Digital video seems particularly well-suited to single-point-of-view material, where there is a need for actors to work in a more theater-like style. In those types of situations, the prep-and-wait approach that's necessary with classical 35mm filmmaking simply isn't appropriate."

As an example, Penotti cites an upcoming GSF film written and directed by Jesse Peretz and starring Paul Rudd, *The Inherited Château*. "The film is about two young men who inherit a château outside of Paris. Shooting on digital video enabled the actors to improvise and discover their characters on camera. The approach also allowed a more intimate production style better suited for a smaller type of story; using a crew of 30 instead of six would have been a hindrance."

To explore this emerging aesthetic, GSF's digital film division shot tests using five NTSC and PAL DV cameras, including mini-DV, DVCam, DigiBeta and high-definition units. Day and night interior and exterior scenes were shot simultaneously with the five digital cameras, and the footage was transferred to 35mm film. "We did that to educate producers and directors about the possibilities and limitations inherent in each digital format," Penotti says.

GreeneStreet is also striving to perfect the transfer of DV to film for exhibition. "We're experimenting extensively with different transfer methods and film stocks," Penotti reveals. "We're also forging strategic relationships that will allow us to create digital animation and visual effects at competitive costs." Toward that end, GSF recently allied with The Orphanage, a San Francisco-based digital-effects company.

The budgets of GSF's film projects generally range from $4-$7 million, while its DV features tend to cost between $300,000 and $2 million. "Within our budgetary range, we greenlight projects internally and with complete freedom," Penotti says. "We're happy to hit singles and doubles — although a home run now and then would also be nice!" ■

Books in Review

by Ray Zone

Celluloid Mavericks: A History of American Independent Film
by Greg Merritt
Thunder's Mouth Press
416 pps. $18.95 Paperbound
ISBN 1-56025-232-4

The 1989 release of Steven Soderbergh's *sex, lies and videotape*, which was made for $1.2 million and earned more than $125 million worldwide, is commonly cited as the "arrival" of independent cinema. However, Greg Merritt's comprehensive history of independent film, *Celluloid Mavericks*, traces its origins back to the very beginnings of cinema, proving that the art and business of motion pictures owe their very evolution to the independent spirit.

Celluloid Mavericks opens with a look at the premiere of D.W. Griffith's landmark 1915 film *Birth of a Nation*, an independent production that Griffith financed himself. The controversial film became a blockbuster and, perhaps more than any other film, demonstrated the artistic potential and importance of the then-emerging medium. Merritt also traces the creation of Carl Laemmle's Independent Moving Picture Company, which Laemmle formed after he was locked out of the film-exchange business by Thomas Edison's Motion Picture Patents Trust. (Edison enlisted all of the major studios to create the trust in 1909, in an attempt to forge a monopoly on production, distribution and exhibition of the movies during the tremendous growth of the Nickelodeon era.) Other stories about the efforts of independent producers to compete in the film business are related in the book, which tells the whole story of independent film in 10 entertaining chapters. Merritt's book can be viewed as an alternative history of film itself.

"One key to independent-film success," writes Merritt, "has always been to do what the studios don't." Projects that have fallen into this category over the years include Yiddish films, minority films, "social problem" films, exploitation films, horror and crime pictures and documentaries. That's a lot of alternative film history to cover, but Merritt takes it all in stride. He also provides a bibliography, cost-to-gross ratios and a useful timeline at the end of the book.

Interestingly, independent films have served as springboards for some of the industry's greatest cinematographers. *The Life and Death of 9413 — A Hollywood Extra*, a one-reel art film directed by Robert Florey and Slavko Vorkapich in 1928, was the first film shot by Gregg Toland, ASC. (Toland was assisted by Vorkapich and Paul Ivano.) The same year saw the release of *The Last Moment*, an avant-garde film written and directed by Paul Fejös and produced for only $13,000 by Edward Spitz, who enlisted the young Leon Shamroy, ASC, to shoot it. Fejös, along with cinematographer Hal Mohr, ASC, is credited with inventing the modern camera crane used to make *Broadway* in 1929.

Many other great cinematographers have shot independent documentaries, including Floyd Crosby, ASC (who won an Academy Award in 1931 for *Tabu*), and Virgil Miller, ASC (who photographed *Navajo* in 1952). In 1954 — the same year he won an Academy Award for his cinematography in *On the Waterfront* — Boris Kaufman, ASC, shot a grindhouse nudist-camp romp called *Garden of Eden*. Merritt's book lists 12 Oscar-winning cinematogra-

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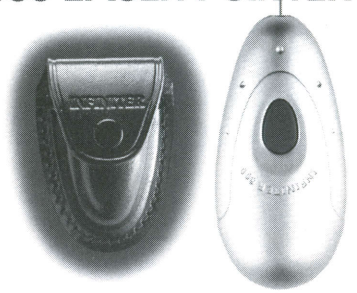

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phers who have photographed independent films, including ASC members James Wong Howe, Haskell Wexler and Vilmos Zsigmond.

For Reel: The Real-Life Stories That Inspired Some of the Most Popular Movies of All Time
by Harold Schechter
and David Everitt
Berkley Boulevard
260 pps, trade paperback ($13)
ISBN 0-425-17271-6

Compulsively readable, this book relates the true stories behind box-office hits and cult favorites in a fast-paced and engaging style. Ranging from *King Kong* to *The English Patient*, the authors illustrate that in "its search for stories that will thrill, chill, enchant and amaze audiences, Hollywood has often looked to the most wondrous source of all — real life." Schechter and Everitt cover 50 of the most celebrated films of all time, tracing their journeys from "the unembellished pages of history books and newspapers to the shining, cinematic world."

Everitt is a former editor of *Fangoria* magazine, and Schechter has authored several true-crime novels, including the best-selling *Deviant*. Not surprisingly, the authors appear to take particular delight in relating the grisly, true-life events behind such cinematic classics as *M* and *Psycho*. The former, Fritz Lang's 1931 classic, was based on the then-recent serial murders committed by Peter Kurten, the "Vampire of Dusseldorf." The latter, Alfred Hitchcock's 1960 chiller, was based in part on the shocking crimes committed by Wisconsin serial killer Ed Gein in the Fifties.

For Reel also covers cult classics that were not necessarily big money-makers, such as Joel and Ethan Coen's offbeat 1991 comedy *Barton Fink*. In the film, which is loosely based on the life of playwright Clifford Odets, John Turturro portrays "a cartoon-caricature of a New York Jewish intellectual circa 1940." Odets came to Hollywood after the 1935 success of his protest play *Waiting for Lefty*. According to the authors, Odets was "unable to resist a hugely lucrative offer to write for the movies," but always felt he had committed an act of artistic suicide. This frustration was fully expressed by Odets in his 1949 play *The Big Knife*, which deals with "an idealistic actor who sells out to the movies."

The book also covers the highly publicized travails of Orson Welles and *Citizen Kane*. Although many know that the film was based on the life of William Randolph Hearst, the authors note that fewer are probably aware that the controversy surrounding the movie "cost Welles his career." When Hearst threatened to expose the scandalous doings of movie-studio executives who did not cooperate in sabotaging the film, "Louis B. Mayer and other moguls banded together and tried to buy the negative of Welles's movie in order to destroy it," Schechter and Everitt write. *Citizen Kane* was the last film over which Welles would have total artistic control.

In their chapter on *King Kong*, the authors acknowledge that while no gigantic ape ever demolished Manhattan, "there really was an adventure-packed reality behind the creation of the movie." In providing a succinct overview of the careers of Merian C. Cooper and Ernest B. Schoedsack, co-directors "whose amazing true-life adventures inspired the story, and whose personalities are reflected in the figure of *Kong*'s intrepid, globe-trotting filmmaker, Carl Denham," the authors make an interesting case.

Other films discussed in this highly entertaining book are *Jaws*, *The Exorcist*, *Double Indemnity*, *Hoosiers*, *On the Waterfront*, *Saving Private Ryan* and *The Wild One*. ■

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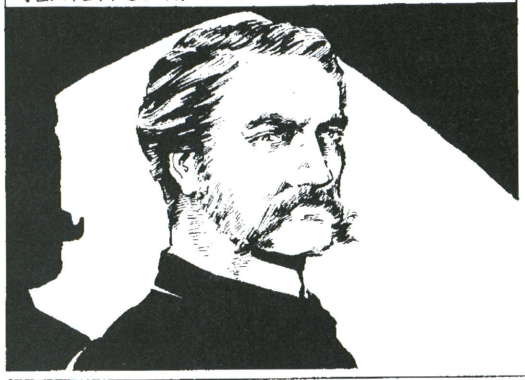
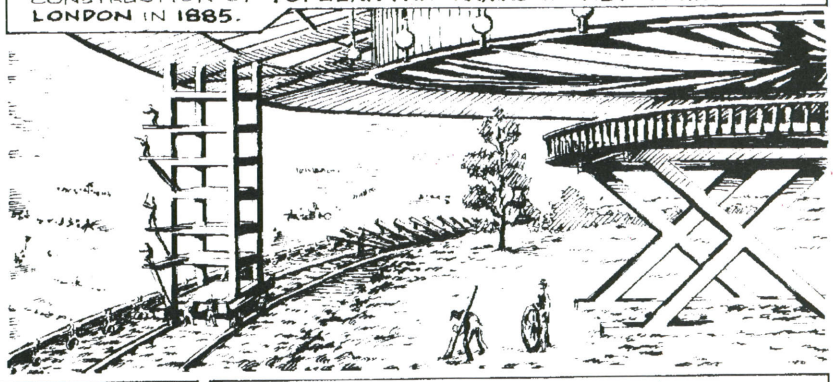
THE DISAPPEARANCE

by Ray Zone & Chuck Roblin

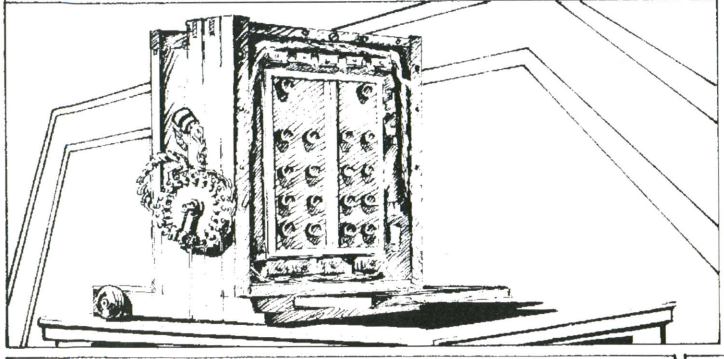
AUGUSTIN LE PRINCE WAS AN EARLY INVENTOR OF MOTION PICTURES.



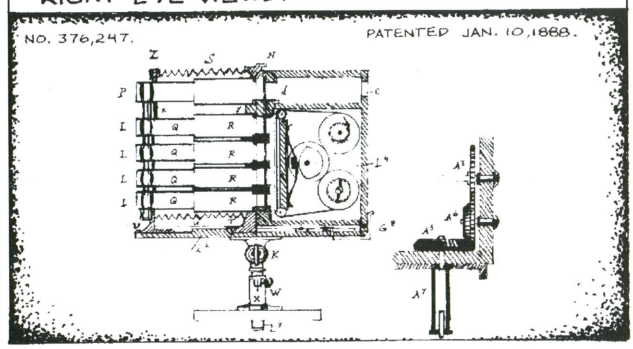
AS AN ARTIST AND PHOTOGRAPHER LE PRINCE BEGAN SUPERVISING CONSTRUCTION OF POPULAR PANORAMAS IN NEW YORK AND LONDON IN 1885.



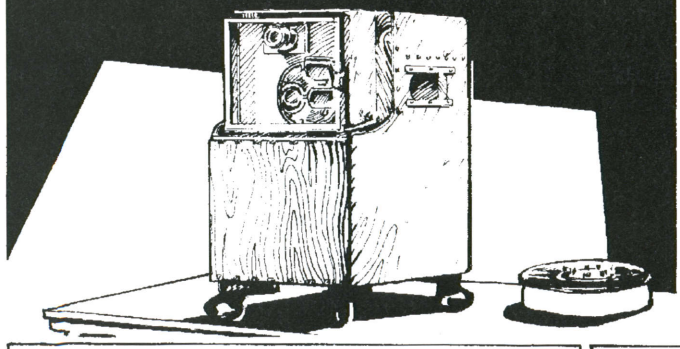
IN 1887, LE PRINCE BUILT A MOVIE CAMERA WITH SIXTEEN SEPARATE LENSES.



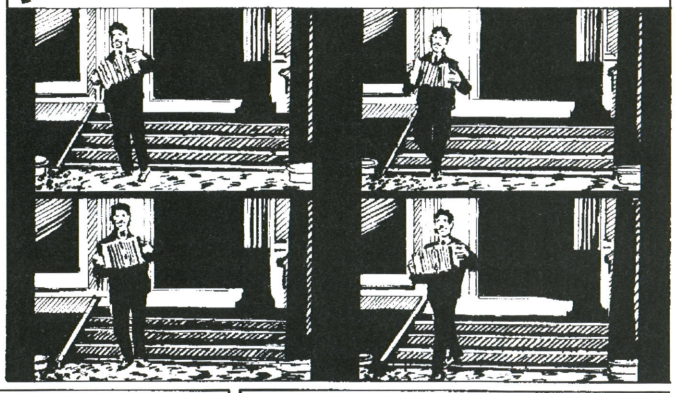
THIS WAS POSSIBLY A STEREOSCOPIC OR "3-D" CAMERA THAT PHOTOGRAPHED LEFT AND RIGHT EYE VIEWS.



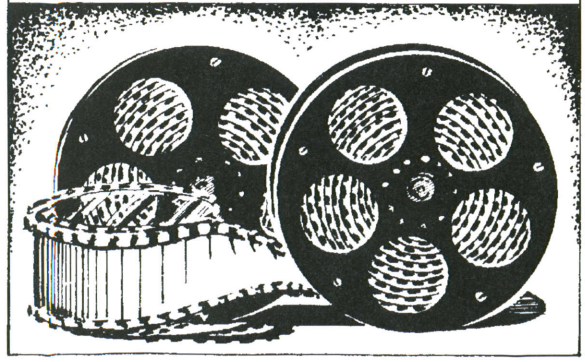
A YEAR LATER LE PRINCE BUILT A SIMPLER CAMERA WITH A SINGLE LENS.



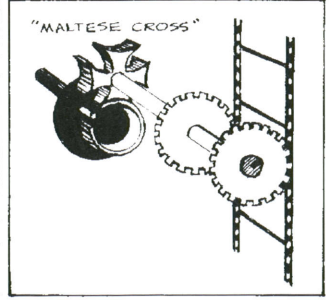
FILMING WITH THE NEW CAMERA BEGAN IN 1888.



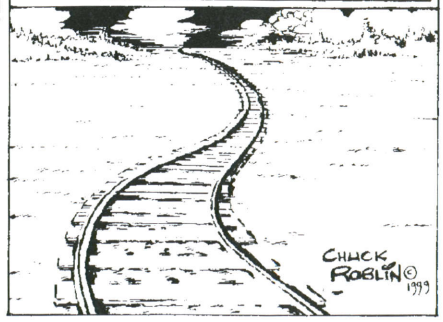
AT FIRST LE PRINCE FILMED WITH KODAK STRIPPING PAPER AND THEN CELLULOID.



LE PRINCE WAS ONE OF THE FIRST TO USE THE "MALTESE CROSS" FOR INTERMITTENT FILM MOVEMENT.



THE DISAPPEARANCE OF LE PRINCE FROM A PARIS-BOUND TRAIN IN 1890 IS ONE OF THE GREAT UNSOLVED MYSTERIES.



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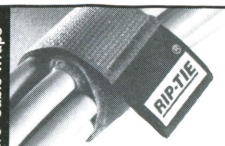

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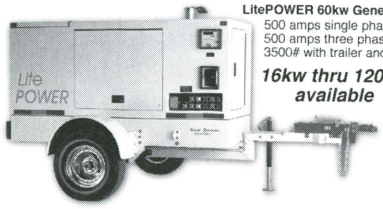

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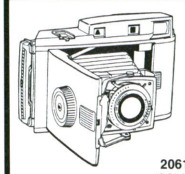

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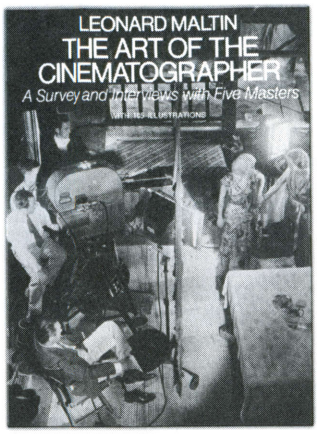

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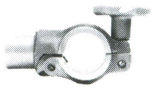
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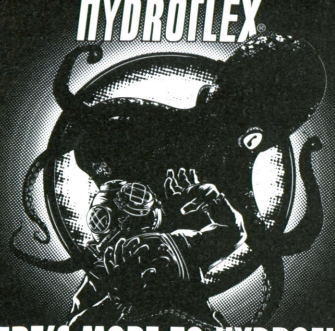

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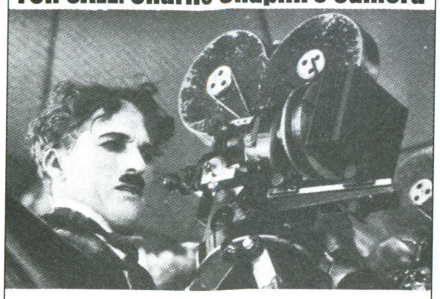

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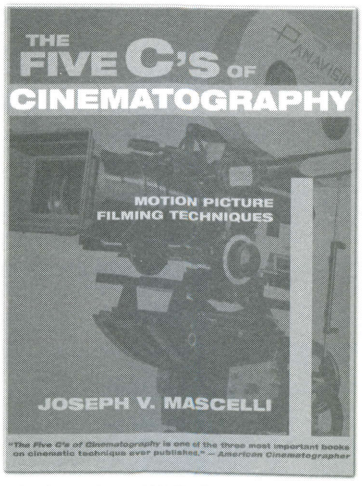

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Program includes Semler discussing and demonstrating:
- Widescreen composition.
- The relationship between lighting design and coverage.
- The best use of high-speed film stocks in low-light situations.

F785 29 min. Producer: AFTRS

Lighting *Dead Poets Society* With John Seale, ASC, ACS
- Seale guides the students and our camera through the lighting setups he used for scenes set in summer, winter, night and day.
- He also divulges tricks and techniques that he uses to achieve extremely difficult effects while maximizing the number of takes each day.

F786 28 min. Producer: AFTRS

Studio Lighting: A Comparative Workshop With Donald McAlpine, ASC, ACS & Denis Lenoir, AFC
Topics include:
- Studio practice
- Lighting design
- Color temperature
- Lighting metering
- Use of practical lamps

F787 59 min. Producer: AFTRS

Location Lighting With Geoff Burton
Topics include:
- Maximum use of natural lighting resources.
- Working with limited space on location.
- How fast stocks and fast work can be critical to success.

F788 29 min. Producer: AFTRS

Shooting for Realism With Allen Daviau, ASC & Sacha Vierny
Program highlights:
- Daviau and Vierny were each given the same script and set to work with, and they share their individual approaches to the problem.
- Computer graphics of the lighting setups as well, as side-by-side comparisons of the finished scenes, illustrate their approaches.

F802 55 min. Producer: AFTRS

Shooting for Drama With Robby Müller, NSC, BVK & Peter James, ASC, ACS, CSC
Program highlights:
- Each cinematographer was given the same script and set constraints. The results were beautiful images that reflect their different backgrounds and philosophies on the art and business of filmmaking.
- The video culminates with a split-screen comparison of each cinematographers finished piece.

F803 55 min. Producer: AFTRS

Shooting for Fantasy With Sacha Vierny & Denis Lenoir
Program highlights:
- Lenoir demonstrates how to use one special effect to hide another.
- Learn how to combine several effects to create magic.

F804 55 min. Producer: AFTRS

Shooting for Black-and-White With Allen Daviau & Denis Lenoir
Program highlights:
- As well as being a storehouse of practical information, this program is an ode to the haunting beauty of black-and-white cinematography and a wonderful essay on the changing art of the cinematographer from the 1920s to the present day.

F805 55 min. Producer: AFTRS

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In Memoriam

Lothrop Worth, ASC, died on March 16 at the Motion Picture & Television Hospital in Woodland Hills, California. At 96, he was one of the oldest residents at the Motion Picture & Television Fund's retirement community, and one of its greatest friends. Worth enjoyed a 50-year career as a cinematographer and had been a member of the ASC since 1955. He is best known for his contributions to the 3-D boom of the 1950s.

Worth was born in Melrose, Massachusetts, on July 11, 1903. His family moved to Los Angeles during his childhood and settled close to the USC campus. Worth noticed silent movie actors walking by on their way to outdoor sets at nearby studios and became fascinated with film production. "I was intrigued with it from the time I saw the cowboys and Indians walking down the street," he said in a recent interview.

His father had a fatal heart attack while Worth was studying business administration at USC. At that time, his mother was working as a cosmetologist for Constance DeMille, wife of Cecil B. DeMille, and she secured the young student a job at DeMille's film studio. "The DeMilles thought I should be an actor," Worth recalled. "But I thought I should do something more technical."

Worth's first job for DeMille was to film the intertitles for the 1923 silent epic *The Ten Commandments*. He also worked as a still photographer on the sets, but he settled in behind the movie camera early in his career. He was a member of Guild 659 and worked at all of the major studios, including 20th Century Fox, Warner Bros., First National Pictures and Paramount Pictures. He spent the last 20 years of his career at Paramount, retiring in 1969.

Undoubtedly, Worth will be remembered for his work as cameraman for director of photography Joseph Biroc, ASC, on *Bwana Devil*, the 1952 3-D film directed by Arch Oboler that initiated a production boom of "deepies" at all the major studios. *Bwana Devil* was shot with the Natural Vision 3-D camera system developed by Beverly Hills optometrist Julian Gunzburg and his brother, Milton. The Natural Vision system featured two 35mm Mitchell Cameras mounted on a base plate with the lens turrets facing each other. In between were two front-surface mirrors that had micrometer adjustments for variable parallax that reflected the scenes into the camera lenses.

The Natural Vision equipment was engineered by Friend Baker and camera technician O.S. "Bud" Bryhn, and when it was ready, Gunzberg hired Biroc and Worth to shoot some tests. Early in 1952, 3-D tests were screened before ASC members at the clubhouse. Arch Oboler saw a subsequent screening and decided to film his African adventure starring Robert Stack, Barbara Britton and Nigel Bruce in the Natural Vision process. Oboler engaged Biroc as director of photography and Worth as cameraman for the 3-D filming on Ansco color stock, which began on June 18, 1952, in a rugged, mountainous area 45 miles north of Los Angeles.

The Natural Vision rig was covered with a large blimp and was mounted on a mobile camera car called the "Blue Goose" for almost every take. This car was a converted 4-wheel drive Army weapons carrier with a forklift and platform on the front that were operated hydraulically.

To avoid false perspective and distortion, Worth and Biroc selected lenses carefully and took care placing people for camera setups. The viewfinder of the Natural Vision camera permitted the cinematographer, cameraman and director to scan a scene simultaneously during a single rehearsal. Printed on Du Pont color stock and projected with two interlocked projectors, *Bwana Devil* opened big on Thanksgiving 1952 at two Paramount theaters in Los Angeles.

Within two days of its release, Jack Warner signed Worth to shoot *House of Wax* in 3-D using the Natural Vision rig. The cover of the March 1953 issue of *American Cinematographer* shows *House of Wax* in production. Worth is seen in the foreground, and behind him, near the Natural Vision camera, is cinematographer J. Peverell Marley, ASC, and Andre de Toth, the one-eyed director of the film. Vincent Price and Phyllis Kirk, who starred in *House of Wax*, are also pictured.

Using the Natural Vision camera, Worth subsequently filmed *Charge at Feather River* for Warner Bros., *Devil's Canyon* for RKO, *Fort Ti* for Columbia Pictures and *Gog* for United Artists. After the 3-D cycle ended, Worth filmed *Battle Taxi*, *I Was a Teenage Frankenstein* and *Unwed Mother*. In 1966, for director William "One-Shot" Beaudine, Worth shot *Billy the Kid vs. Dracula* and *Jesse James Meets Frankenstein's Daughter*. During the latter part of his career, Worth worked as a cinematographer on TV programs such as *The Donna Reed Show*, *The Real McCoys* and *I Dream of Jeannie*.

When his wife, Jean, died in 1989, Worth donated their $700,000 Brentwood home to the Motion Picture & Television Fund and moved to the Woodland Hills retirement community. He lived independently in a cottage there until he died. "I don't know what I could have enjoyed as much as my career in the business," Worth said in a recent interview. "I couldn't have been happier. It gave me a wonderful life." — Ray Zone

From the Clubhouse

The AFC Turns 10

The Association of French Cinematographers (AFC) celebrated its 10th anniversary late last year by leading a growing chorus of European voices arguing for the cinematographer's right to be considered co-author of a film. "If we have a legal victory, the cameraman would be considered one of the authors of a movie," says Willy Kurant, an ASC member who joined the AFC in its first year. "No visual change or reformatting would be done without his consent."

In early December, members of the AFC joined other European cinematographers and several attorneys in a panel discussion on authorship rights at a conference sponsored by IMAGO, the European Federation of the National Associations of Cinematographers, in Torun, Poland. The result was the Torun Declaration, an appeal from IMAGO's 22 member associations to national and European legislative bodies "to include cinematographers among the authors of films and other audiovisual works to which they contribute." In addition to claiming their "moral rights as authors," the cinematographers say they are entitled to part of "the income from the exploitation — increasingly relevant in the digital age — of works that include their creative contributions."

The solidarity expressed in the Torun Declaration was a far cry from the sentiments surrounding the formation of the AFC a decade earlier, according to Kurant. "Since the 1930s, attempts to unite cameramen through clubs and societies in France had failed," he says. "French society was very individualistic at that moment, and it still is." But in 1989, a handful of cinematographers, concerned about emerging technologies and the future of their craft, persisted with their peers and established the AFC. The society had 37 members in its first year, which "seemed a great victory against individualism," says Kurant. "But it was not a total victory, because some did not want to join, either out of independence or out of ego."

The AFC immediately attracted the support of Kodak, Agfa and Fuji, who were all made associate members. Kurant says the Centre National du Cinéma also assisted with funding by matching members' dues. The association's first president was Pierre Lhomme (*Jefferson in Paris, Cotton Mary*), and he was succeeded by Eduardo Serra (*Wings of the Dove, What Dreams May Come*), Pierre-William Glenn (*Day for Night, A Dry White Season*), and Philippe Pavans de Ceccatty (*Les Misérables*), the last of whom took office in March.

In addition to publishing an in-house newsletter, the Paris-based AFC hosts monthly screenings of films by its members, who now number 63. For more information on the AFC, visit the Web site: www.afc.fr.st. For IMAGO, visit www.imago.org.

CNN Comes Calling

CNN entertainment reporter Dennis Michael and his crew paid a visit to the ASC Clubhouse on March 15 to record a segment focusing on the role of cinematographers for the *Showbiz Today* entertainment news program. Two of this year's Oscar nominees, ASC members Dante Spinotti (*The Insider*) and Conrad Hall (*American Beauty*), and past nominee Vilmos Zsigmond, ASC, were on hand to discuss their perceptions of the director of photography's role in motion pictures.

The segment ran in its entirety on March 21 and 25 as a tie-in to the news channel's Academy Awards coverage. Smaller clips ran repeatedly during the "Hollywood Minute" portion of CNN Headline News. Interviews with the threesome were interspersed with behind-the-scenes footage of cinematographers in action.

"It's probably 10 percent technical and 90 percent interpretation," noted Spinotti about the art of cinematography. "You have to take the technique for granted; you have to know it enough to not think about it."

Added Zsigmond, "At the top is the director, and then the director of photography, in my mind, comes second. We are sort of the right-hand person for the director."

Hall elaborated about working with the director, "I read the script until I know the story very, very well, then work with the director to find the vision he or she has in mind for telling the story, and then adapt to that vision."

At the close of the segment, Michael perhaps best summed up the cinematographer's importance to a film production: "Writers, directors and actors may tell the story. Designers may make it beautiful. The cinematographer makes it a movie."

Errata

In this space last month, we incorrectly printed that Victor J. Kemper had recently been elected ASC president for the fourth time. In reality, he has now been elected to the post *six* times. *AC*'s editors would like to apologize to our fearless leader for this oversight.

Also, in our March profile of ASC International Award winner Oswald Morris, BSC ("A Man for All Seasons"), the caption on page 40 incorrectly states that Freddie Young, BSC, did second-unit camerawork on John Huston's 1956 adventure film *Moby Dick*. In fact, the film's second-unit photography was supervised by Freddie Francis, BSC.

AC always regrets these types of errors, which, collectively, are the White Whale of editors everywhere. ■

WRAP SHOT

Trapped within the Roman Colosseum, panicked Christians cower as they are stalked by a pack of hungry lions in MGM's 1951 Technicolor epic *Quo Vadis* — which, at that time, was the most expensive production ever filmed. Peter Ustinov's over-the-top antics as the *non compos mentis* Roman Emperor Nero were scene-stealers, but Robert Taylor (Marcus Vinicius), Patricia Laffan (the empress Poppaea), Deborah Kerr (Lygia) and Finlay Currie (Peter) also turned in fine performances.

In ancient times, all roads led to Rome. Legend maintains that on one of these roads, the Appian Way, the elderly apostle Peter was fleeing mad Emperor Nero's Christian persecution when he was halted by the brilliant image of Christ. Dropping to his knees in reverence, he asked, "Quo Vadis, Dominie?" ("Where goest thou, Lord?") A sad voice responded, "If thou desert my people, I go to Rome to be crucified a second time."

After a motionless moment, Peter seized his staff and began marching back toward the city's seven hills. Soon afterwards, he was crucified on a cross upside-down, as he had requested. Peter had realized that neither Nero nor his legions could overcome the teachings of Christ. To this day, a small church marks the spot of Peter's rapture on the Appian Way — the Church of Dominie Quo Vadis.

This powerful religious tale was exactly what MGM was seeking to follow up its most successful picture to date, *Ben Hur*, in 1924. In 1935, the studio decided to move ahead with *Quo Vadis;* to add authenticity, it was decided that the film should be photographed in Italy. With the outbreak of World War II, however, MGM was forced to slowly develop the epic over the course of 13 years.

Soon after the war's end, MGM leased the bombed-out Cinecitta Studios with the intent of reconditioning the facilities. By April of 1950, the go-ahead was given to begin filming the Biblical story, and a mass migration of cast, crew and equipment crossed the ocean. Because little equipment was available in Italy, all camera gear and 250 tons of electrical equipment had to be shipped over.

Leading the production crew were director Mervyn LeRoy and cinematographer Robert Surtees, ASC. The latter was fresh off *King Solomon's Mines*, for which he won an Academy Award. Surtees has earned 13 Oscar nominations for his expert photography on such pictures as *Thirty Seconds Over Tokyo, Oklahoma!, Mutiny on the Bounty, The Graduate* and *The Sting,* as well as the Technicolor epic *Quo Vadis* among others. In addition to *King Solomon's Mines*, he carried home the golden statue for his work on *The Bad and the Beautiful* (1952) and another Roman epic, MGM's 1959 remake of its own *Ben Hur.*

Upon setting foot on Italian soil, Surtees found the weak studio walls and roofs incapable of supporting overhead lighting units. Sunlight was used as much as possible to augment the set illumination — in fact, one of the stages still lacked a roof!

In the November 1951 issue of *American Cinematographer,* Surtees wrote, "The lighting of *Quo Vadis* was kept very simple. We tried to maintain a classic style, for any other type of lighting on the settings of Roman villas, baths, etc., with their many columns and straight-line architecture, would have been in bad taste. [We always strove] to keep the camera and the lighting from 'running away' with or stealing the scene."

For 24 nights, William Skall, ASC, photographed the burning of Rome, an event supposedly triggered by Nero's attempt to eliminate Christian habitats at the bases of the hills, which he likened to pig sties. "It was a difficult assignment and extremely well done," noted Surtees. "The photography of this sequence is one of the highlights of the picture." — Douglas Bankston

Clarification

In our March issue's Wrap Shot, we noted that Guy Green, BSC, took over for Robert Krasker, BSC, on the David Lean film *Great Expectations.* However, our assertions that "Krasker shot the film's opening, an eerily atmospheric sequence in which young Pip encounters Magwitch in a graveyard," and that "Green replaced Krasker and carefully matched the tone of his photography" are a bit misleading. In fact, only one of Krasker's shots (the first long exterior shot of Pip running across the moor) made it into the finished film; everything else in the picture (including the rest of the opening sequence) was shot by Green, who established a unique visual style that eventually earned him an Oscar for Best Cinematography.

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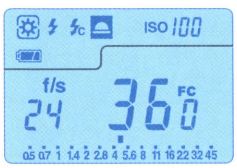

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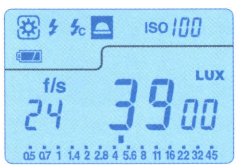

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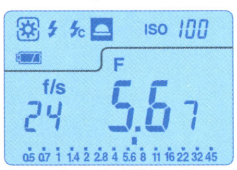

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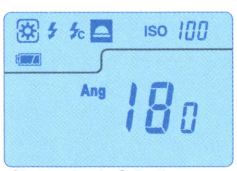

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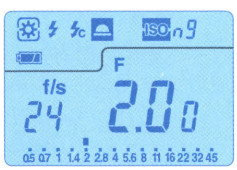

Filter Compensation

- Zoom Spot 1° to 4°
- Incident
- Footcandle
- Lux
- Footlambert
- Shutter angle
- Filter Factor
- Exposure Compensation
- User Calibration
- Setting Lock
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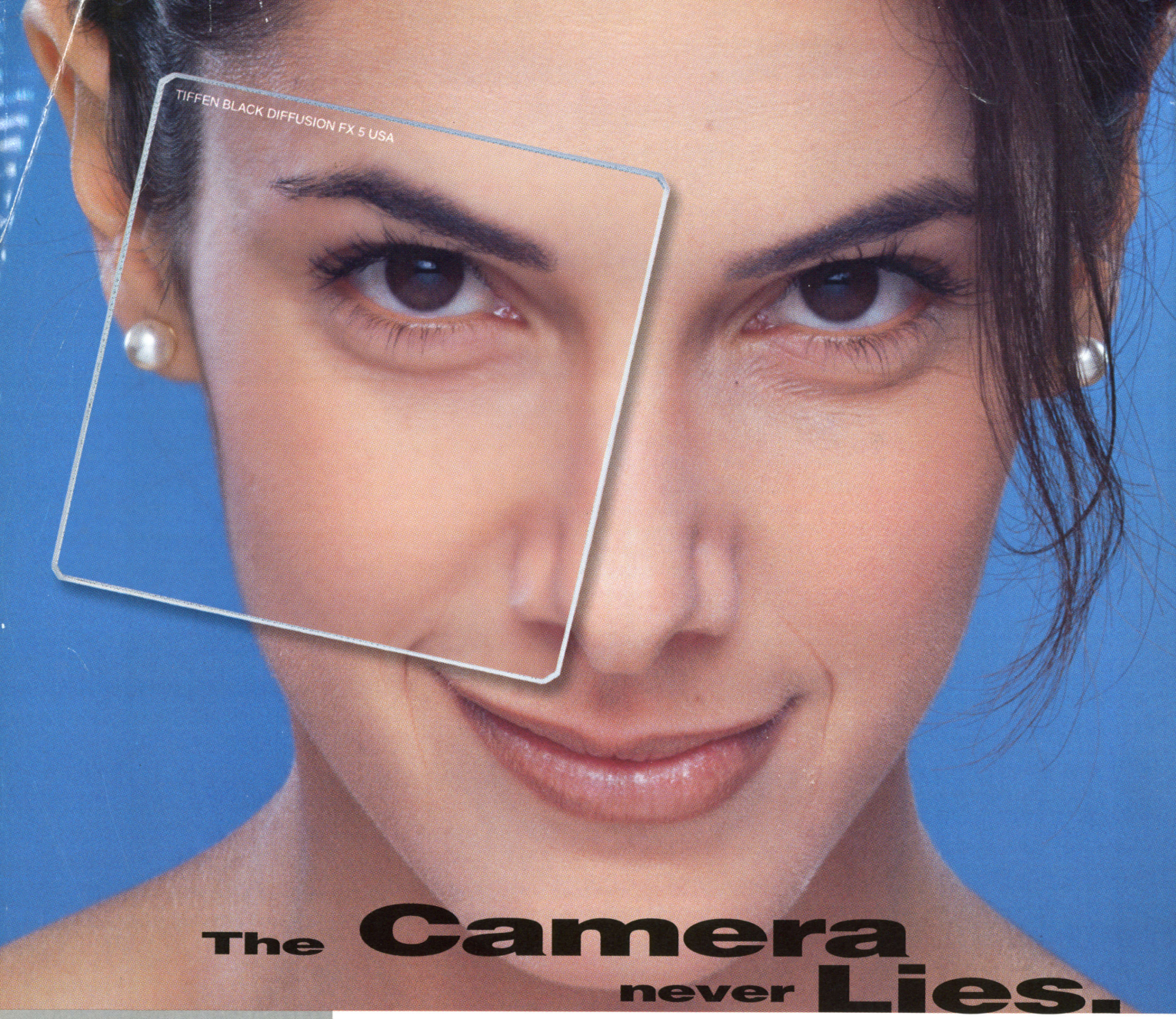

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